

AK360

PRESERVATION BOARD

SUBMISSION

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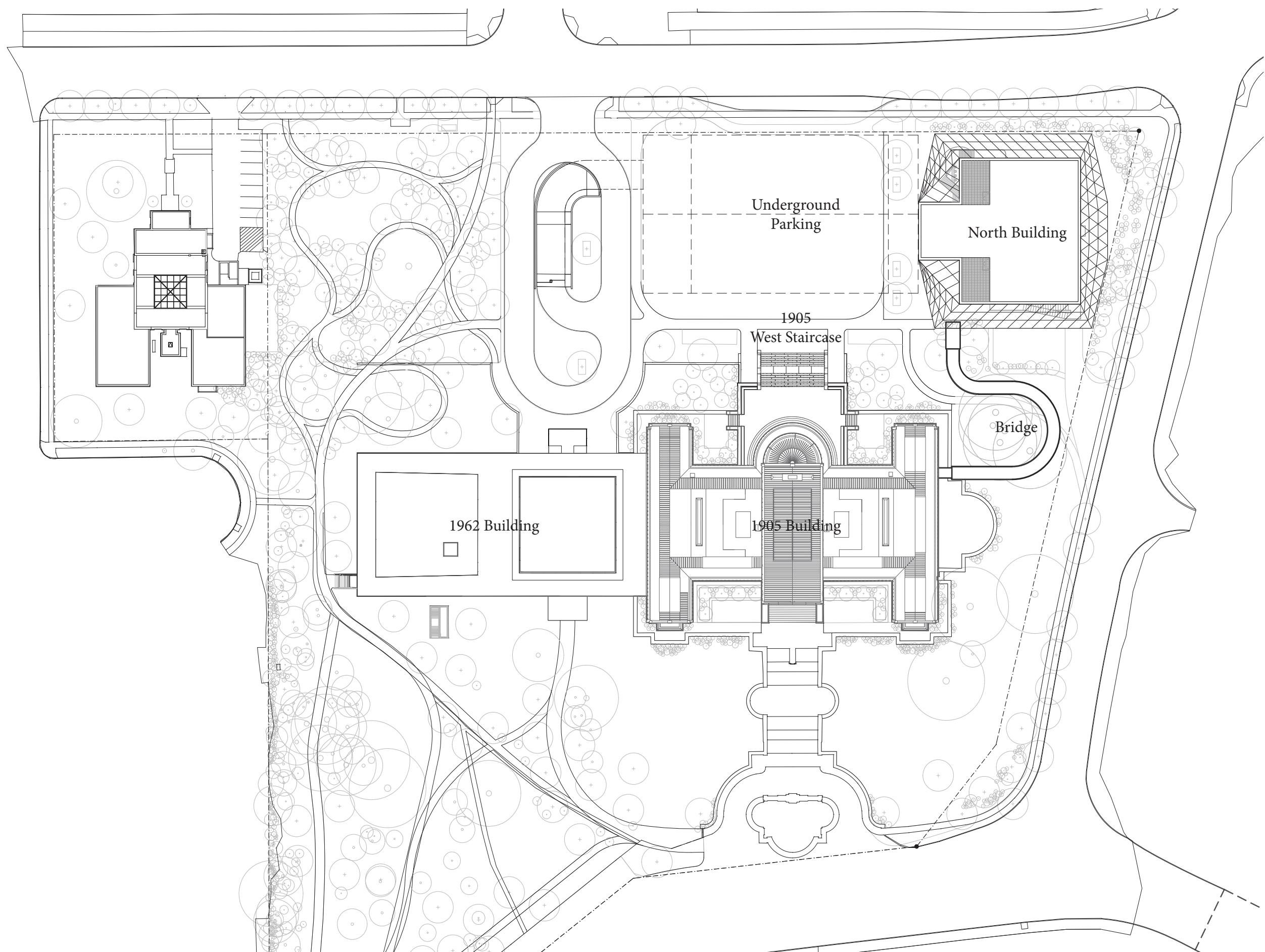
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- West Vestibule Reconstruction and Expansion
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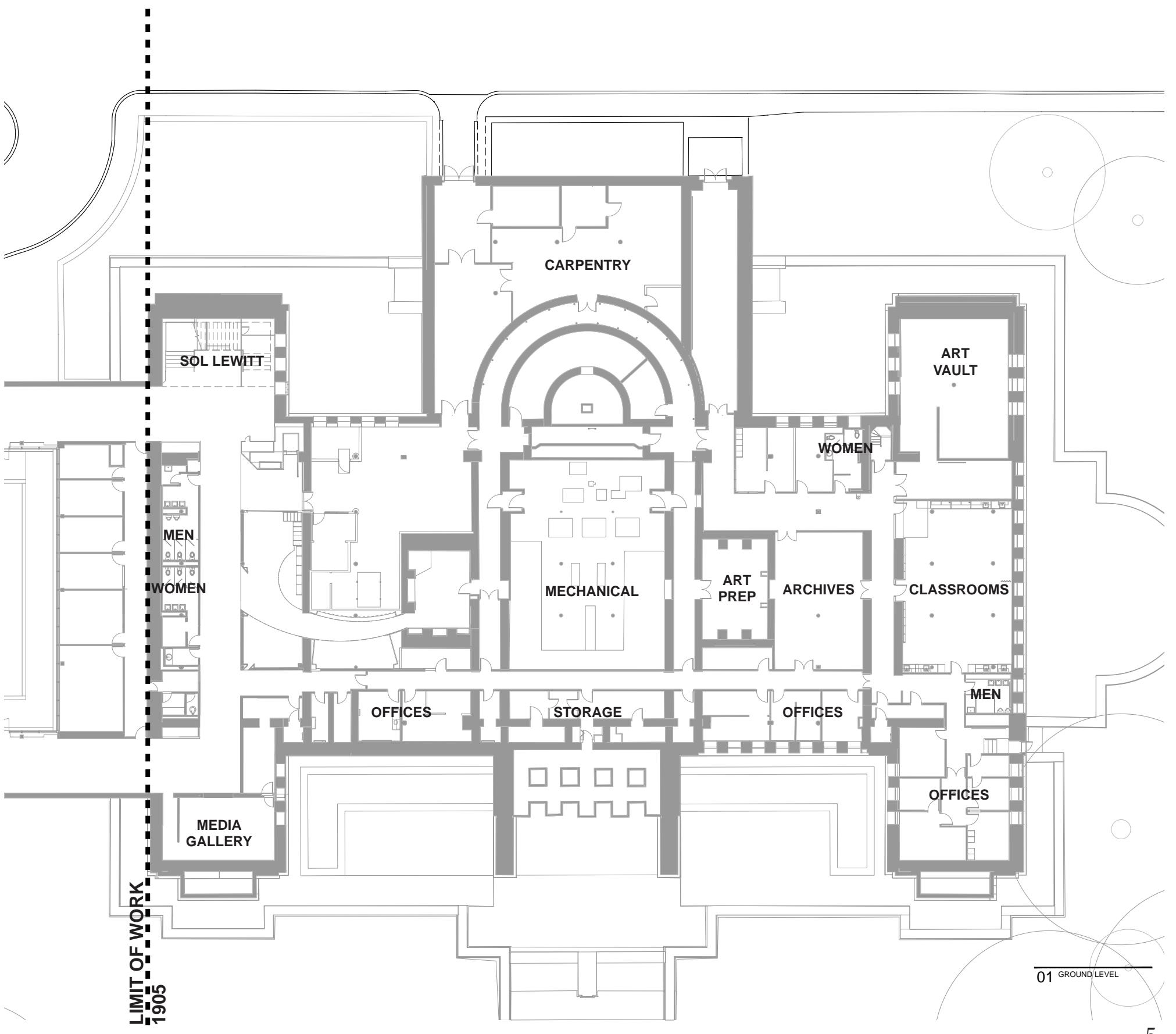
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PROPOSED 1905 MODIFICATIONS

1905 EXISTING PLAN - BASEMENT LEVEL

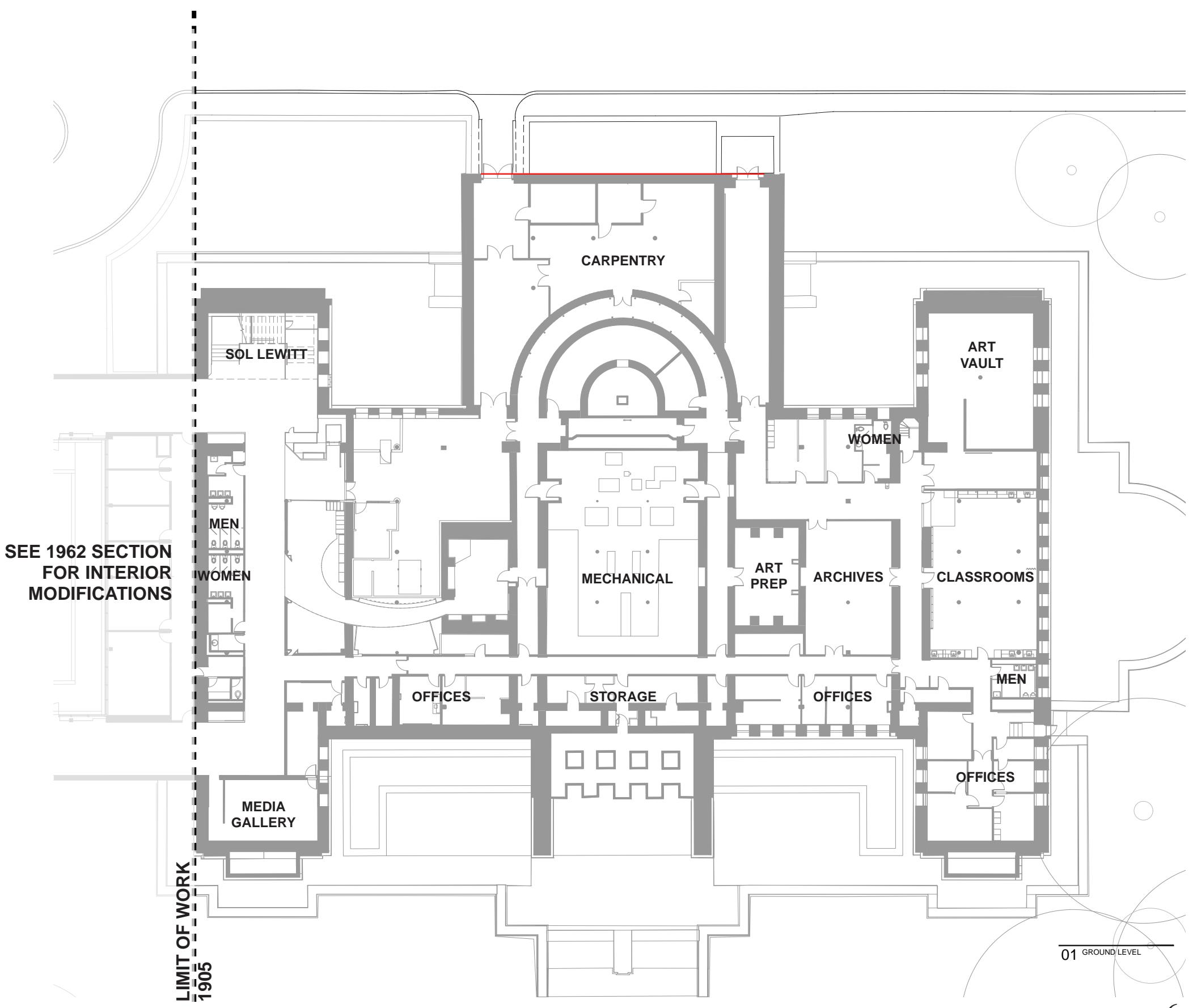
The existing 1905 basement will undergo minor modifications to accommodate the proposed new art path, increase in occupancy and required ADA upgrades to enhance accessibility.



PROPOSED 1905 MODIFICATIONS BASEMENT LEVEL

1905 Proposed Removal Plan

The removal of historic material on the exterior basement level is limited to what is required to reinstate the original 1905 stair on the west.



PROPOSED 1905 INTERIOR MODIFICATIONS - BASEMENT LEVEL

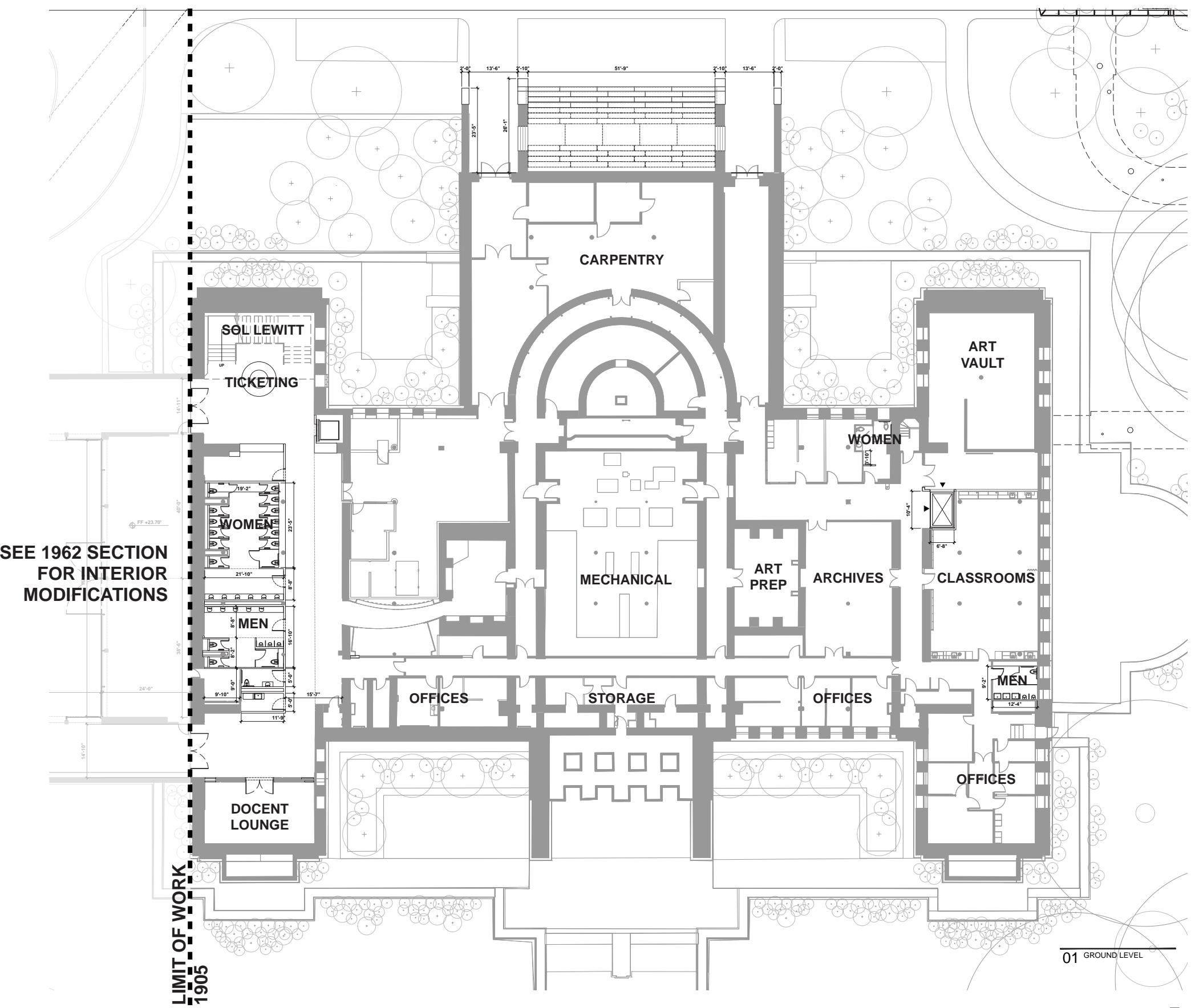
1905 Interior Basement Modifications

Bathroom renovations upgrades and expansion are shown in this plan, along with the proposed modification to accommodate the new floor lift and renovated media gallery into the Docent Lounge.

The proposed lift will land between the existing Classrooms and the existing Art Vault will require modifications to the existing lighting layout.

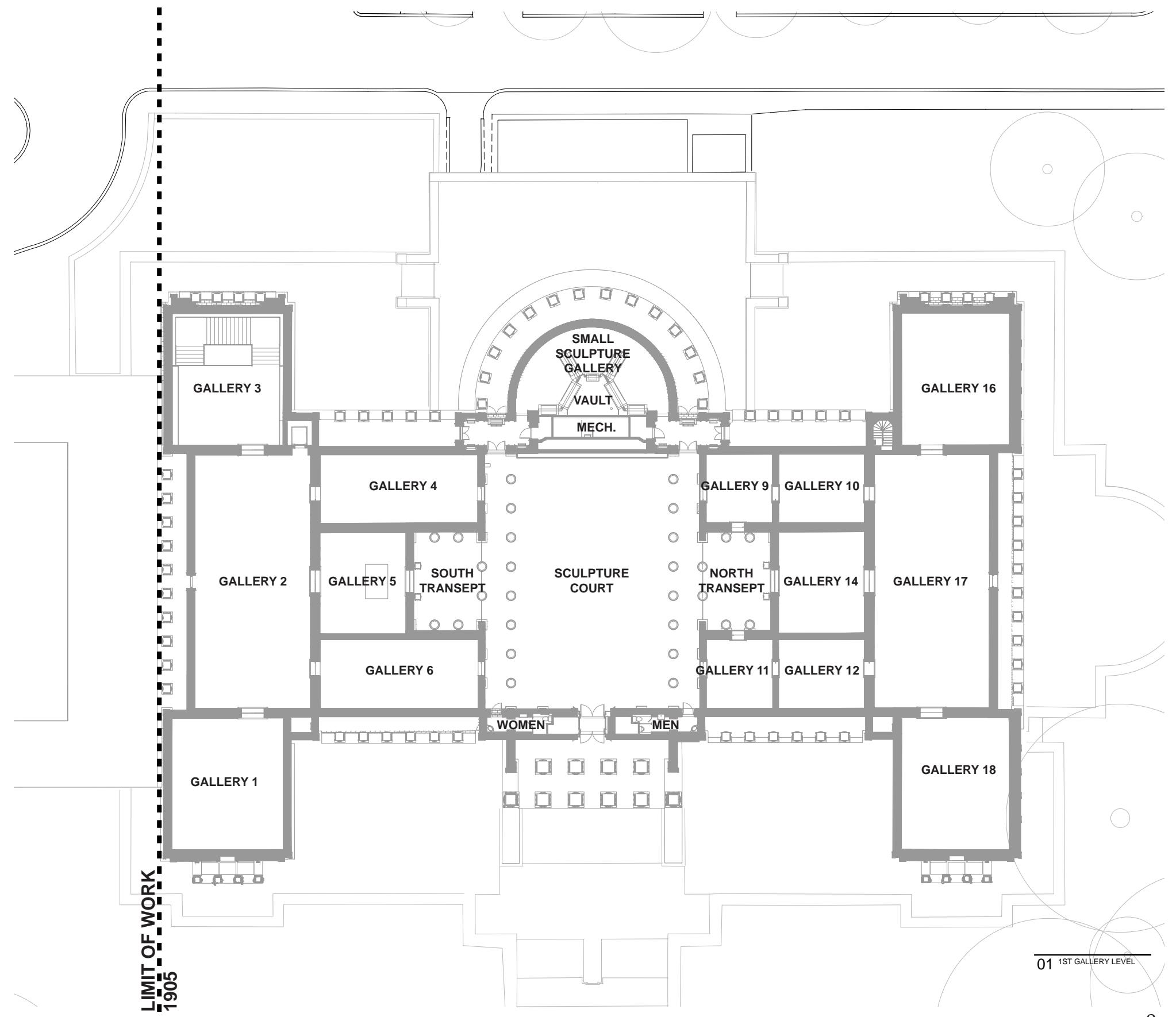
Bathroom renovations and expansion will require modifications to the location of ceiling fixtures, lighting and fire safety devices.

The existing Media Gallery will be modified to accommodate for a future Docent Lounge area requiring modifications to the locations of existing lighting fixtures.



PROPOSED 1905 INTERIOR MODIFICATIONS - GALLERY LEVEL

1905 Existing Gallery Level Plan



PROPOSED 1905 INTERIOR MODIFICATIONS - GALLERY LEVEL

1905 Proposed Gallery Level Plan

The proposed modifications to the Gallery Level of the 1905 building are limited to the proposed bridge interface and the reinstatement of the 1905 stair.

**SEE 1962 SECTION
FOR INTERIOR
MODIFICATIONS**

**SEE PAGE 15
FOR PROPOSED
STAIRCASE PLAN**

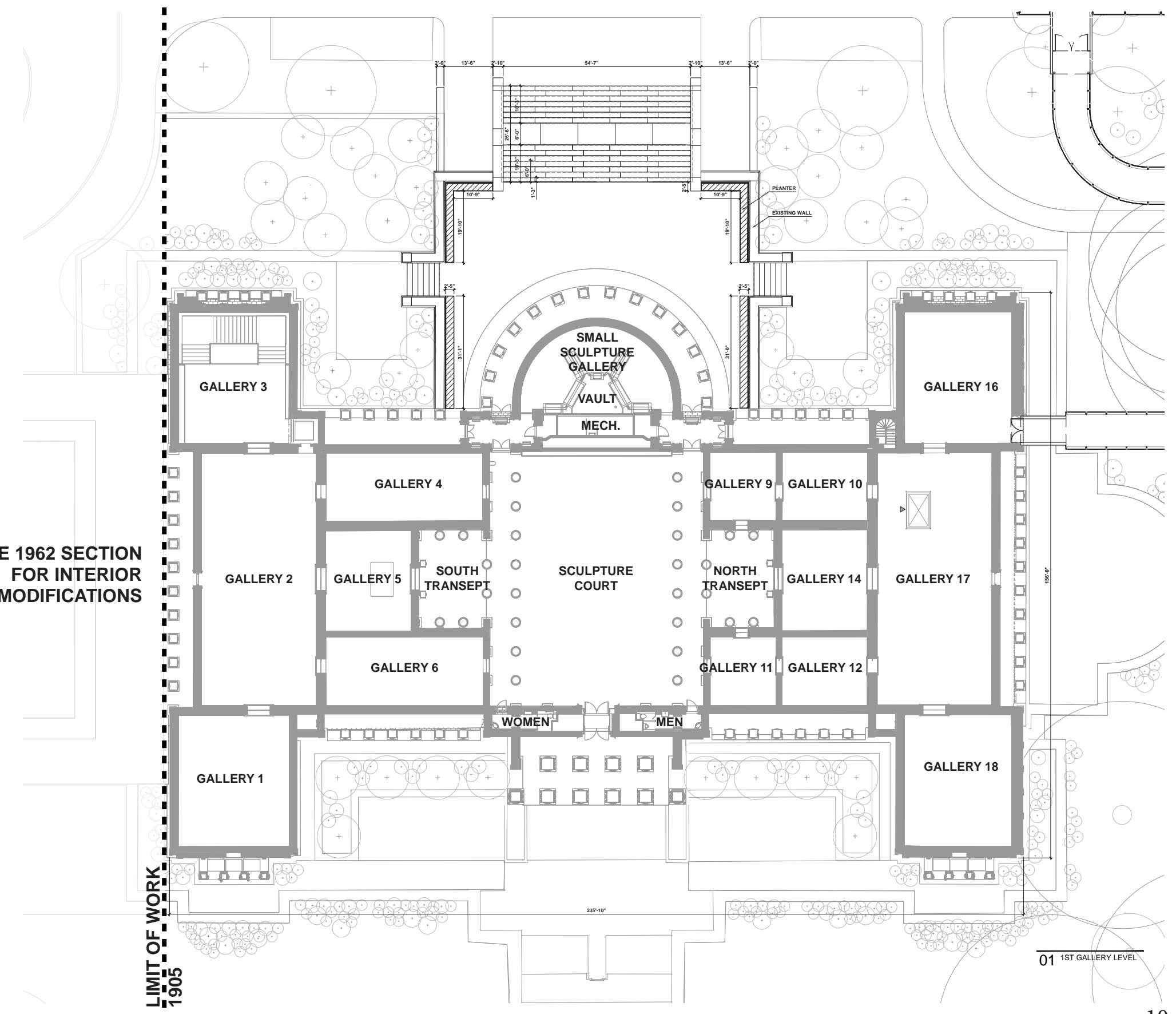
SEE PAGE 20 FOR
PROPOSED BRIDGE
INTERFACE

LIMIT OF WORK 1905

01 1ST GALLERY LEVEL

PROPOSED 1905 INTERIOR MODIFICATIONS - GALLERY LEVEL

1905 Proposed Gallery Level Plan



CONSTRUCTION OF WEST STAIRCASE

ORIGINAL 1905 WEST STAIRCASE

The 1905 Building is a symmetrical Neoclassical edifice built of white marble with a grand staircase on its east façade facing Hoyt Lake and Delaware Park; originally the west side of the building also featured a staircase that rose to a portico surrounding a hemicycle form at the center of the west façade.

ORIGINAL



CONSTRUCTION OF 1905 WEST STAIRCASE

It is our intention to re-instate the historic staircase that was removed to accommodate the parking lot that was added as part of the construction of the 1962 addition. The materiality and form of the stair will be very similar to the original with some simplification of the classical stone detailing.

EXISTING



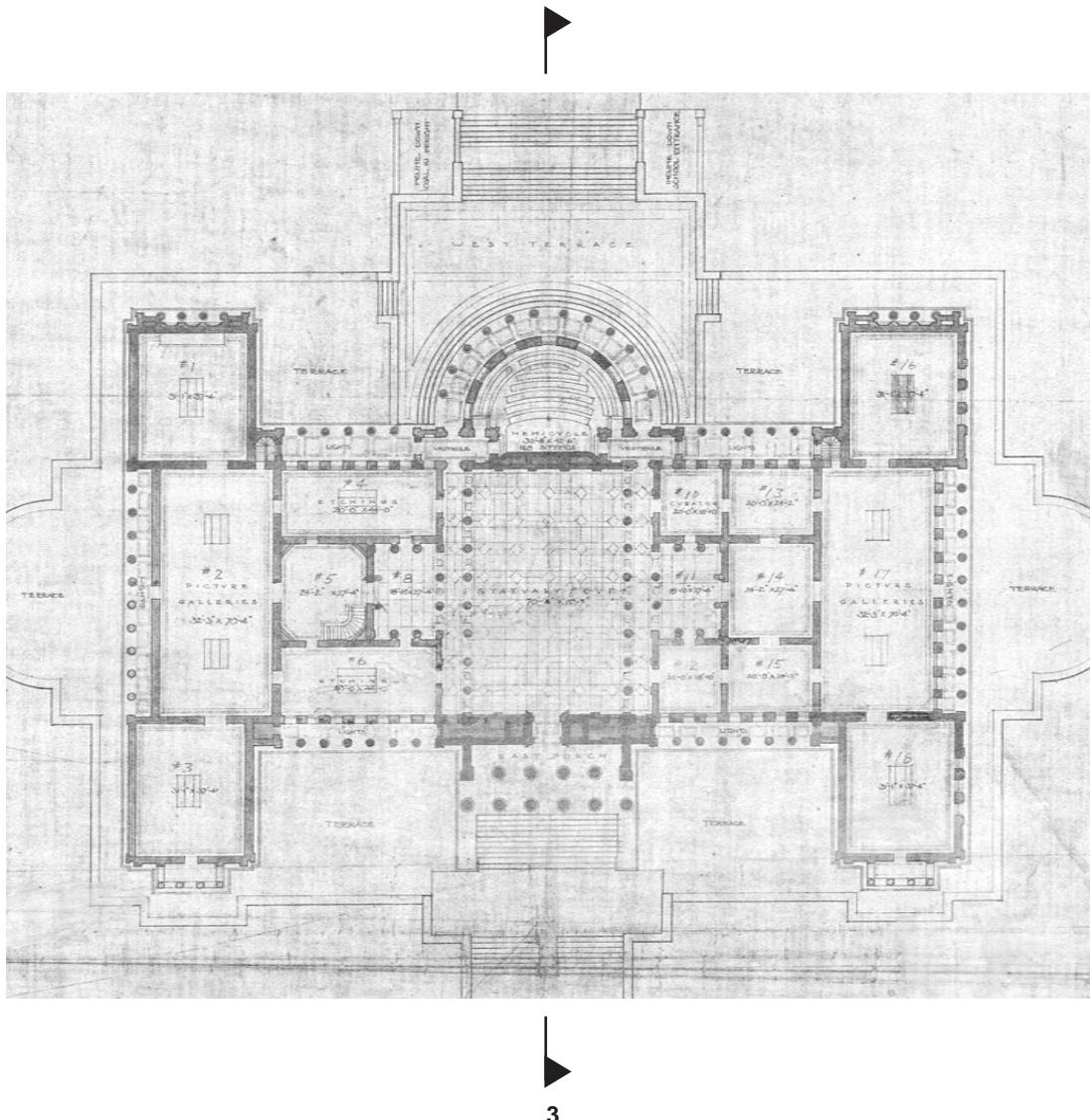
PROPOSED



CONSTRUCTION OF 1905 WEST STAIRCASE

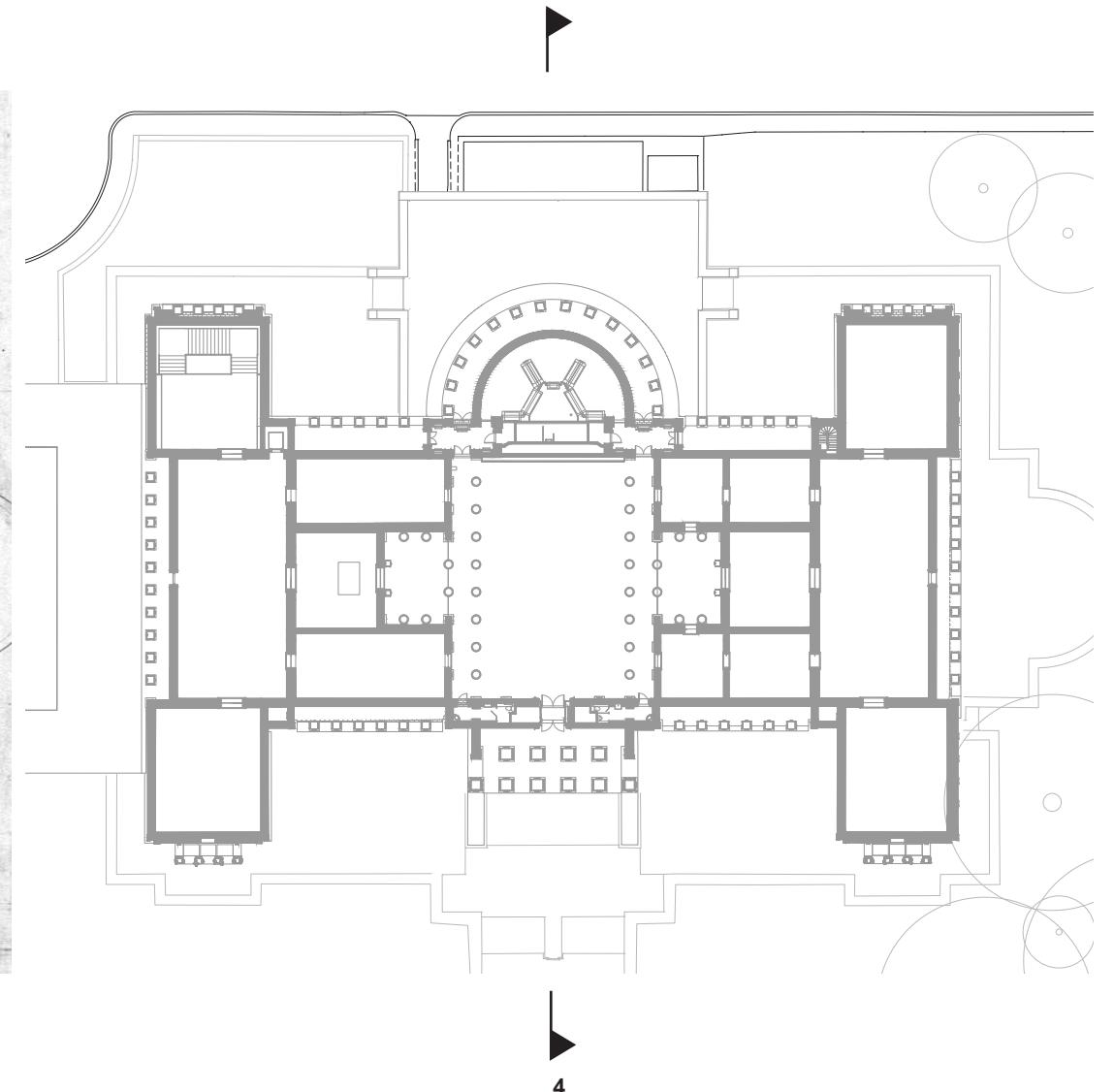
The 1905 Building is a symmetrical Neoclassical edifice built of white marble with a grand staircase on its east façade facing Hoyt Lake and Delaware Park; originally the west side of the building also featured a staircase that rose to a portico surrounding a hemicycle form at the center of the west façade. It is our intention to re-instate the historic staircase that was removed to accommodate the parking lot that was built with the 1962 addition. The materiality and form of the stair will be very similar to the original with some simplification of the classical stone detailing. The reinstatement of the stair creates fall hazards at the Northwest and Southwest corners of the portico plaza, as a result the balustrades have been reshaped to comply with current codes for rail heights at steps and landings. While there is a symbolic value to the reinstatement of the stair, it will also serve as our egress path from the west portico that will require some illumination. It is our intent to integrate LED illumination in the base of the risers.

1905 E. B. Green Drawings



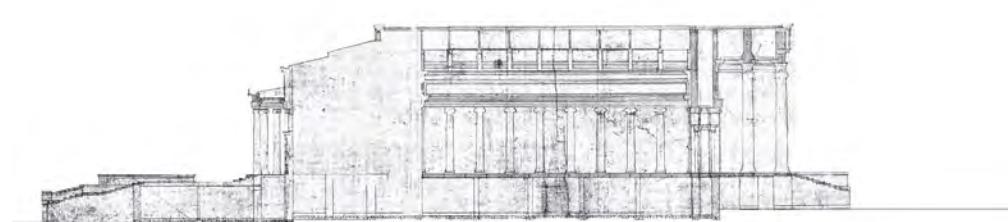
1. 1905 E. B. Green Original Gallery Plan

3

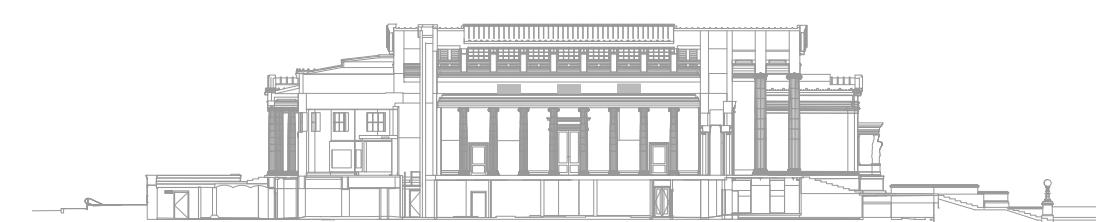


2. Existing Gallery Plan

4



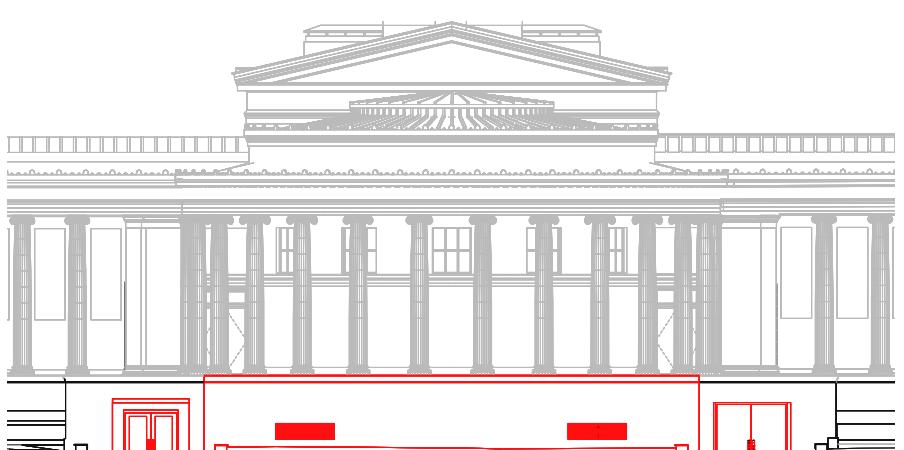
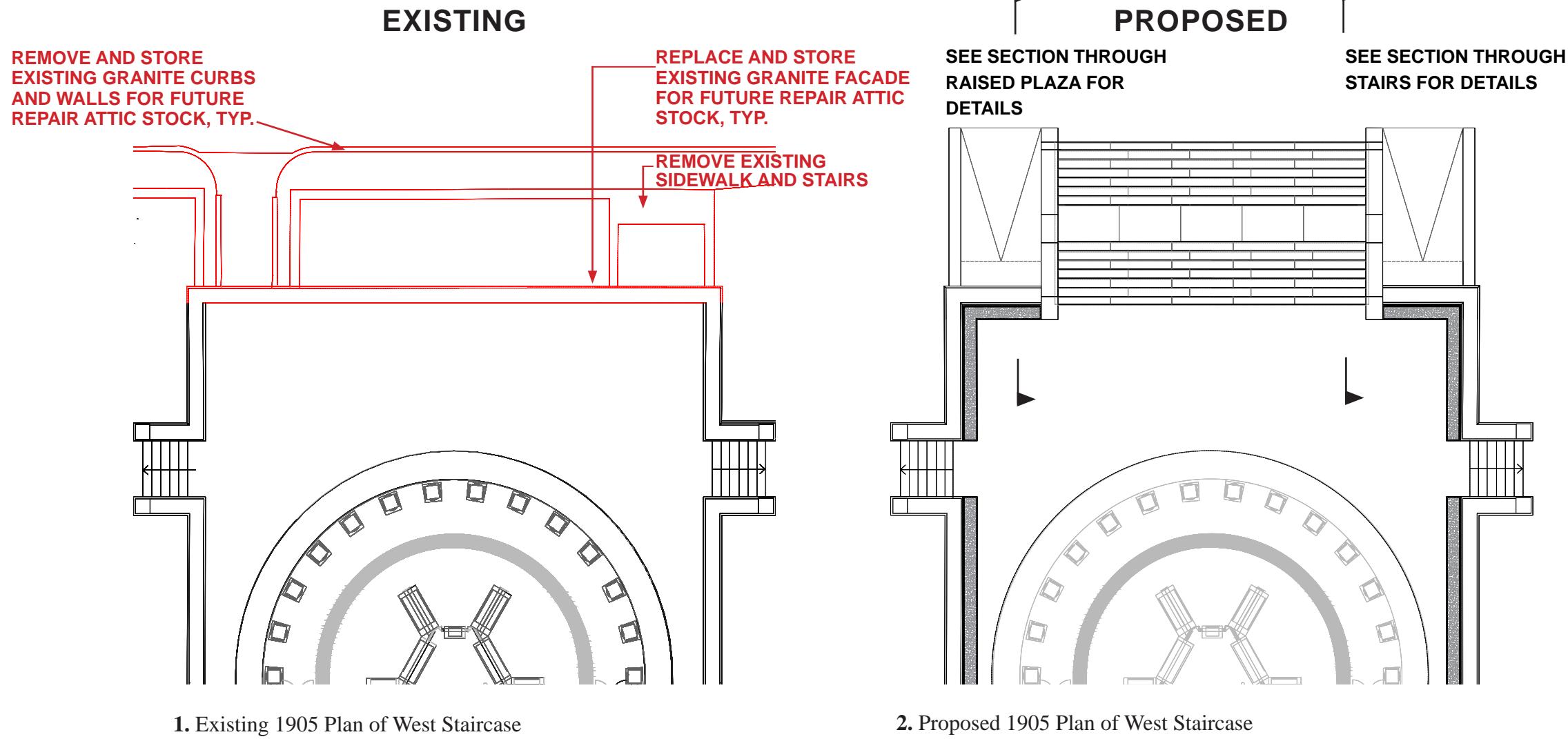
3. 1905 E. B. Green Original Transversal Section



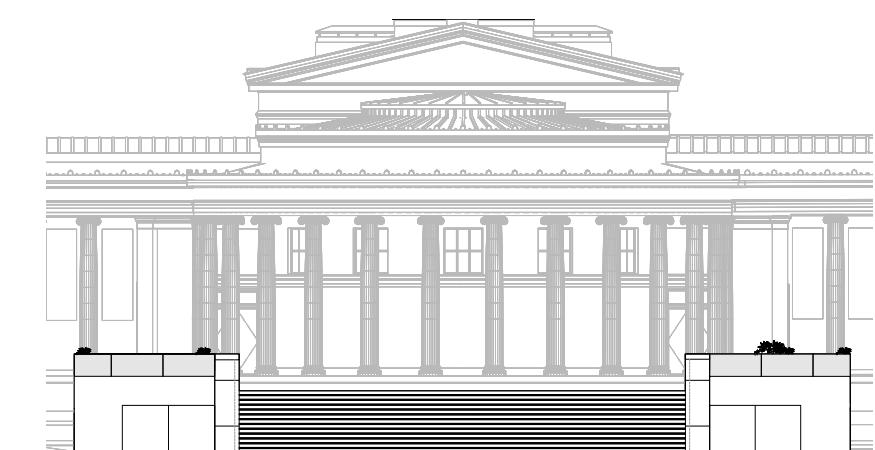
4. Existing Transversal Section

CONSTRUCTION OF 1905 WEST STAIRCASE

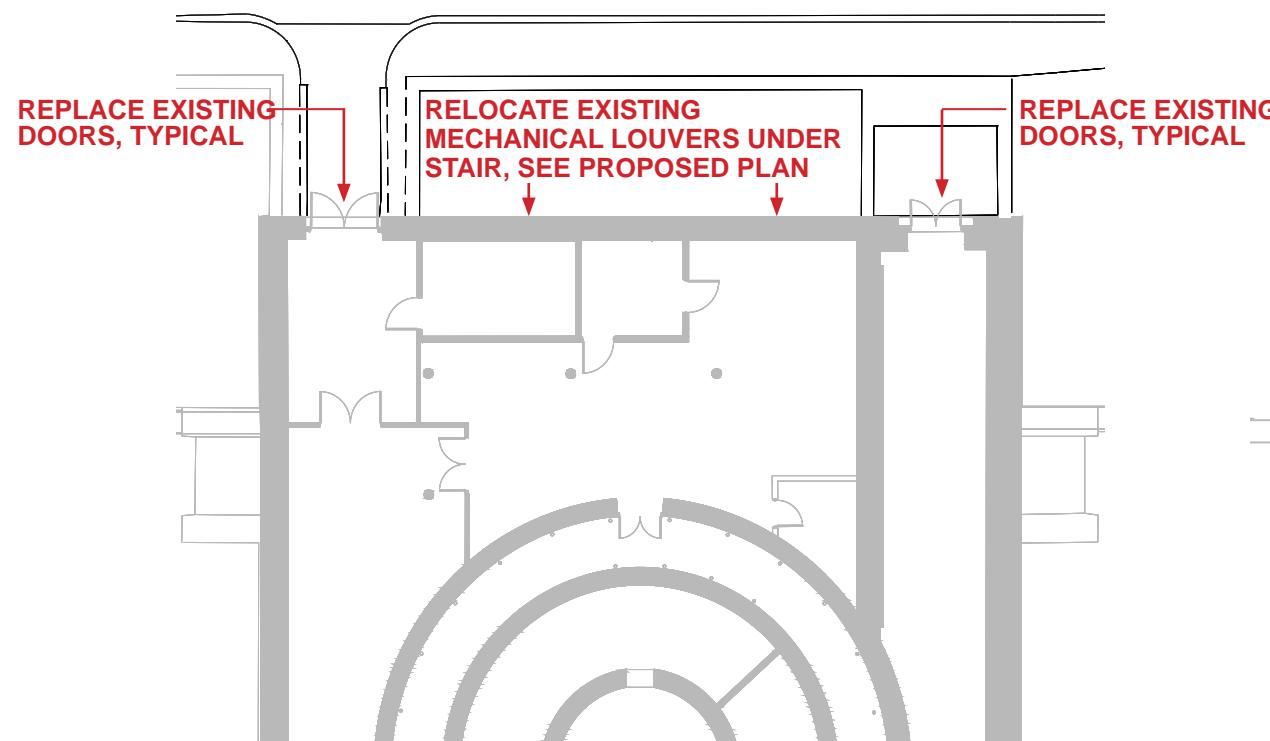
The reinstatement of the stair creates direct access to the new lawn area created by relocating the parking function to an underground parking structure. This reconnects the viewshed of the 1905 facade to Elmwood Avenue restoring not only the original intent of the staircase but the idea of a museum in the park.



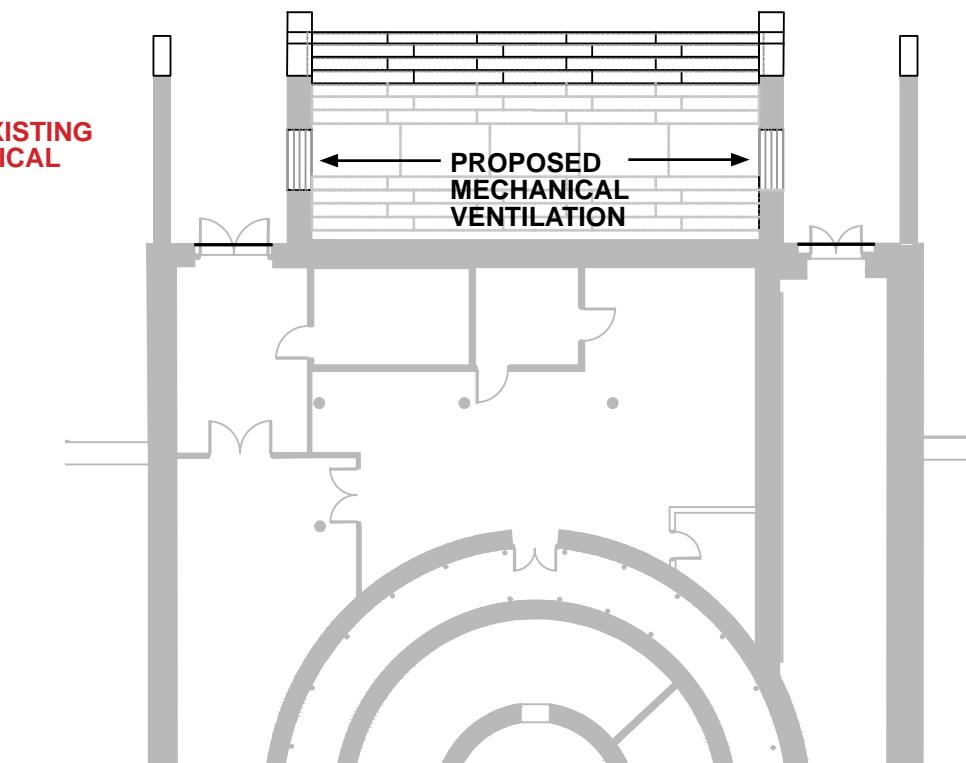
3. Existing West Elevation



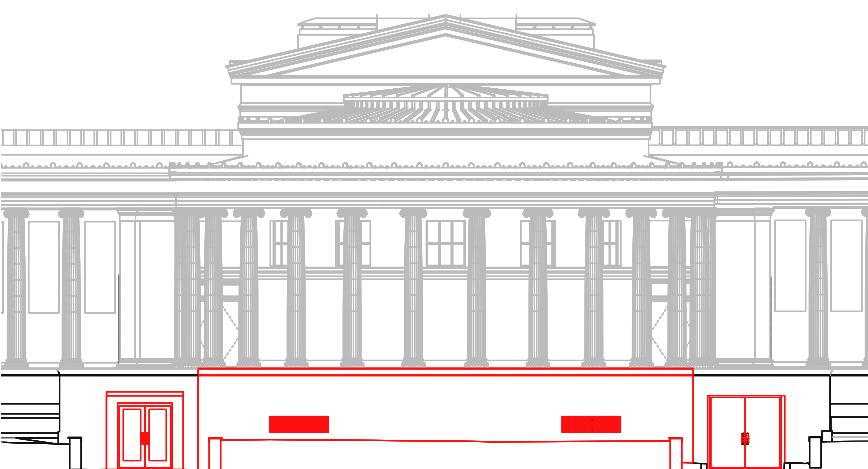
4. Proposed West Elevation

**CONSTRUCTION OF 1905
WEST STAIRCASE****Existing**

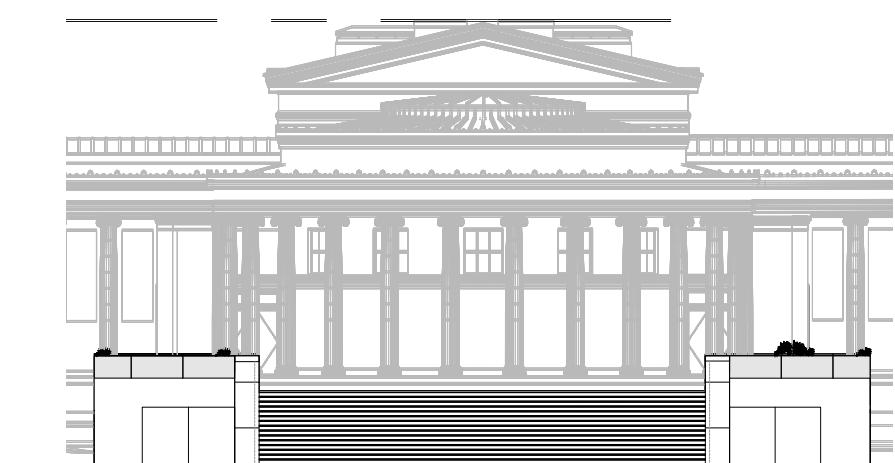
1. Existing 1905 Basement Plan

Proposed

2. Proposed 1905 Basement Plan



3. Existing West Elevation



4. Proposed West Elevation

CONSTRUCTION OF 1905 WEST STAIRCASE

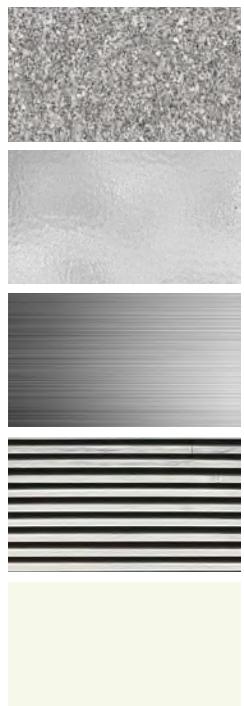
Unfortunately, this also introduces fall hazards at the Northwest and Southwest corners of the portico plaza. As a result the balustrades have been reshaped to comply with current codes for rail heights at steps and landings. While there is a symbolic value to the reinstatement of the stair, it will also serve as our egress path from the west portico that will require proper illumination. It is our intent to integrate LED illumination in the base of the risers.



1. West Facade of the 1905 Building
Photograph: Exhibition of Contemporary American Sculpture, 1916



4. West Facade Render, Proposed Stairs and Planters.



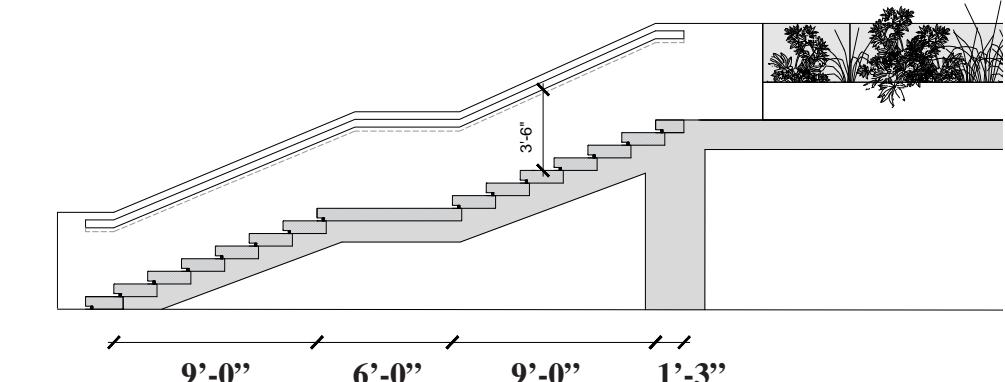
1. Barre Gray Granite, Vermont Cubic or Dimensional Stone

2. Frameless, Top Mount, Tempered Glass Balustrade with Stainless Steel Guardrail & Handrail

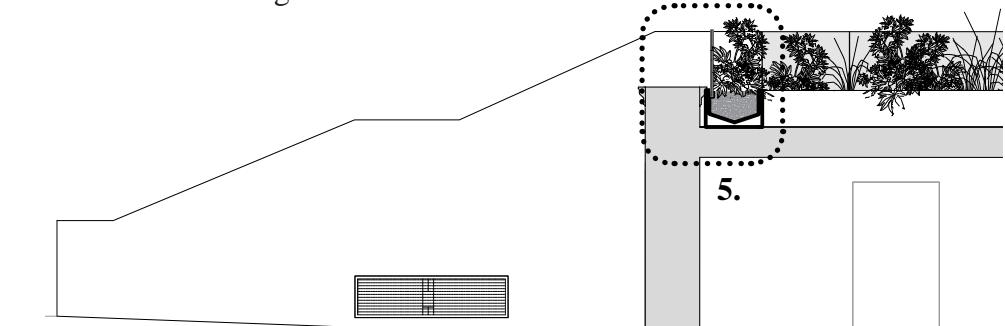
3. Planters, Stainless Steel

4. Exhaust Vent, Stainless Steel Louvers

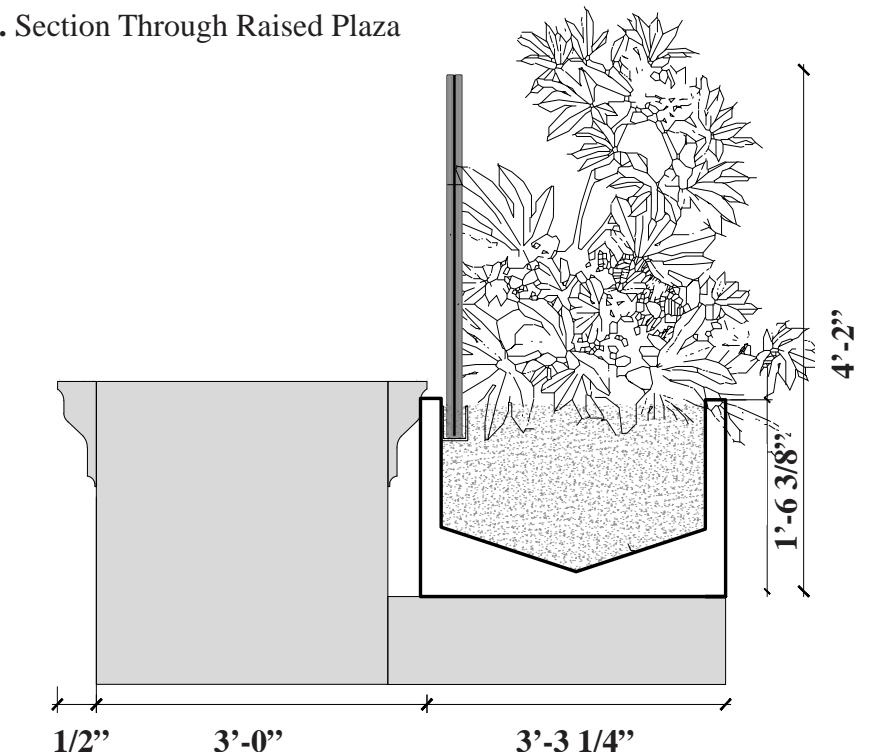
5. Outdoor LED Linear Step Lighting



2. Section Through Stairs



3. Section Through Raised Plaza



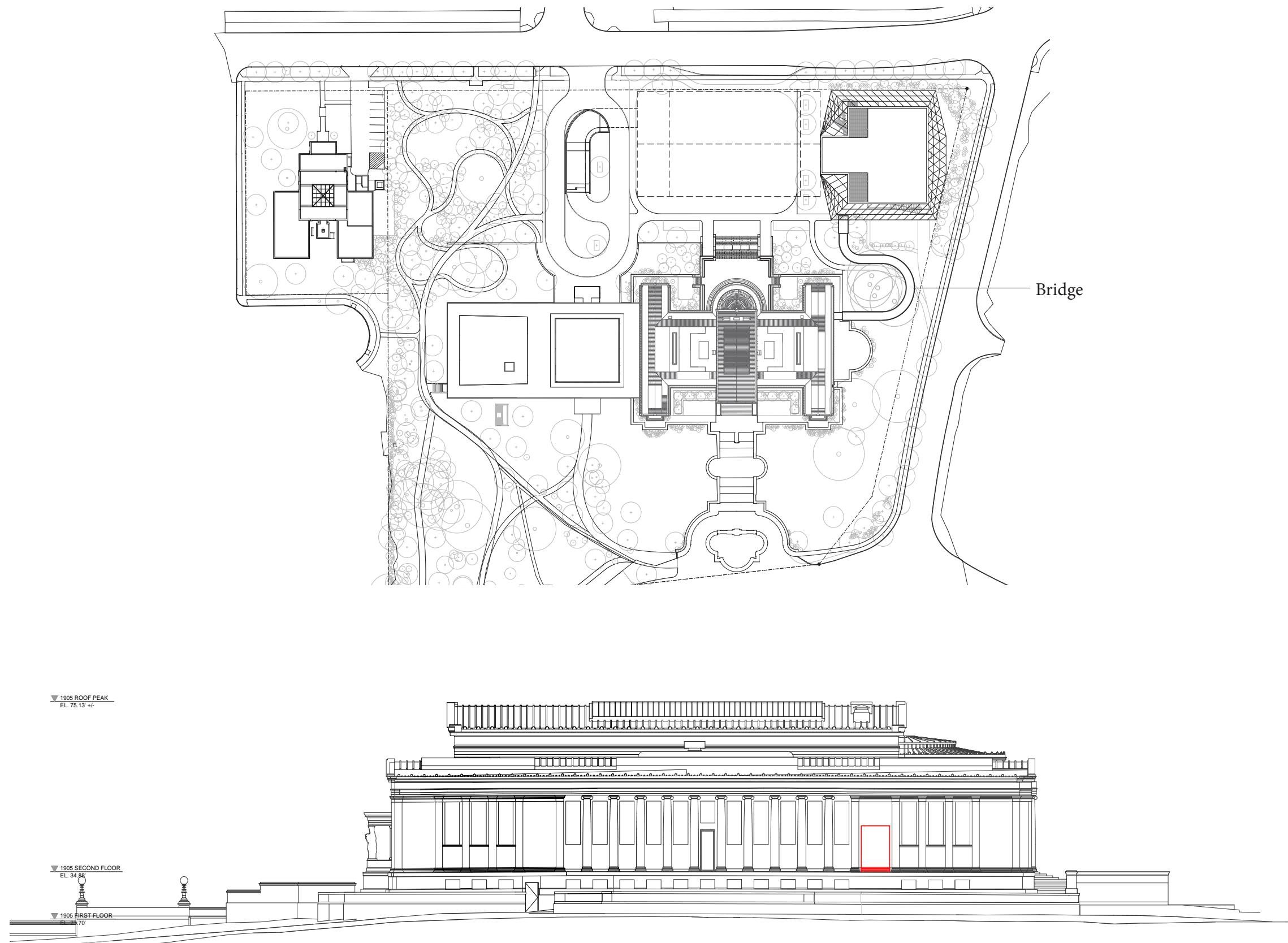
5. Detail Through Planter

PROPOSED 1905 NORTH BUILDING BRIDGE CONNECTION

1905 NORTH BUILDING BRIDGE CONNECTION GALLERY LEVEL

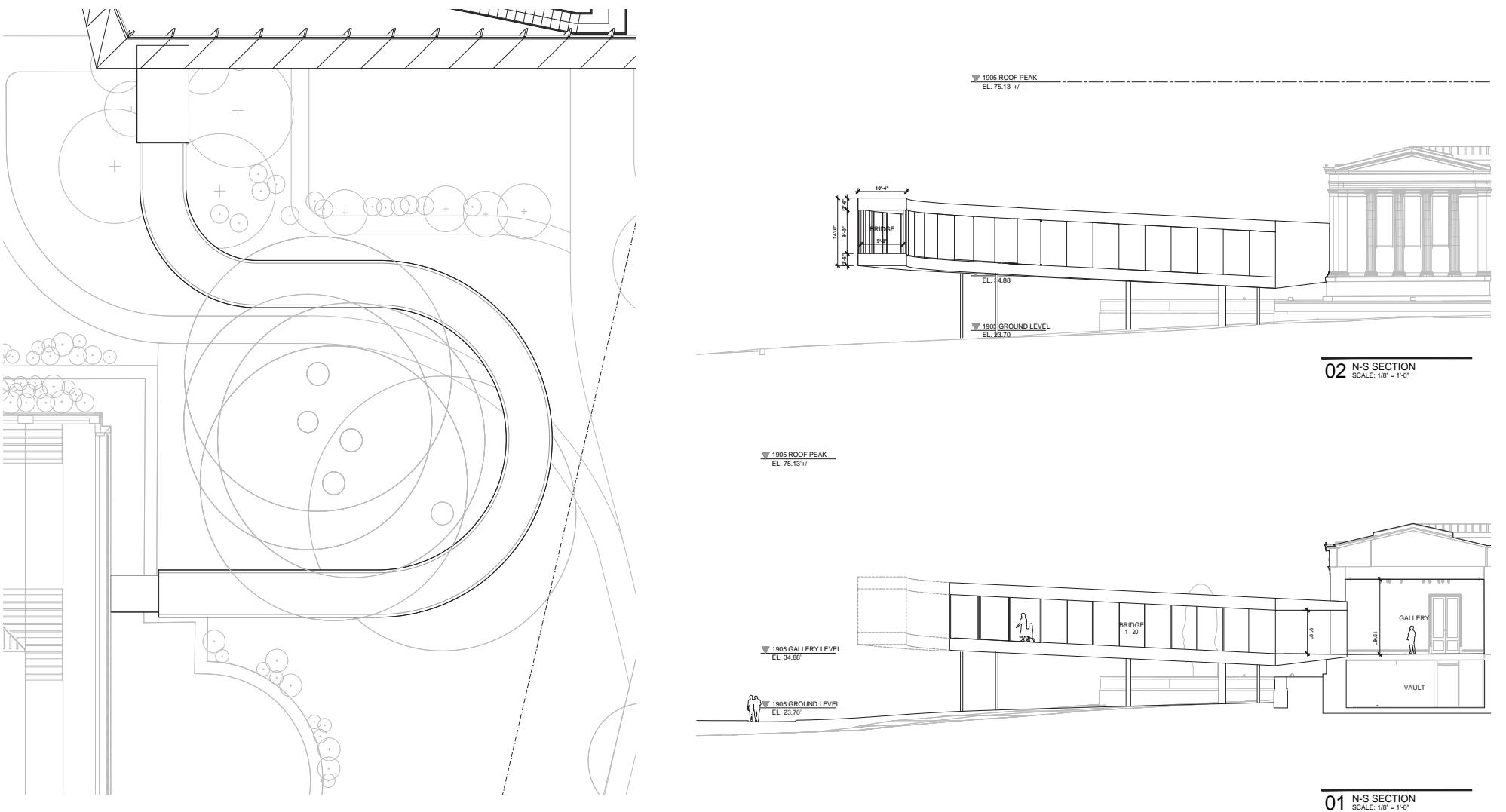
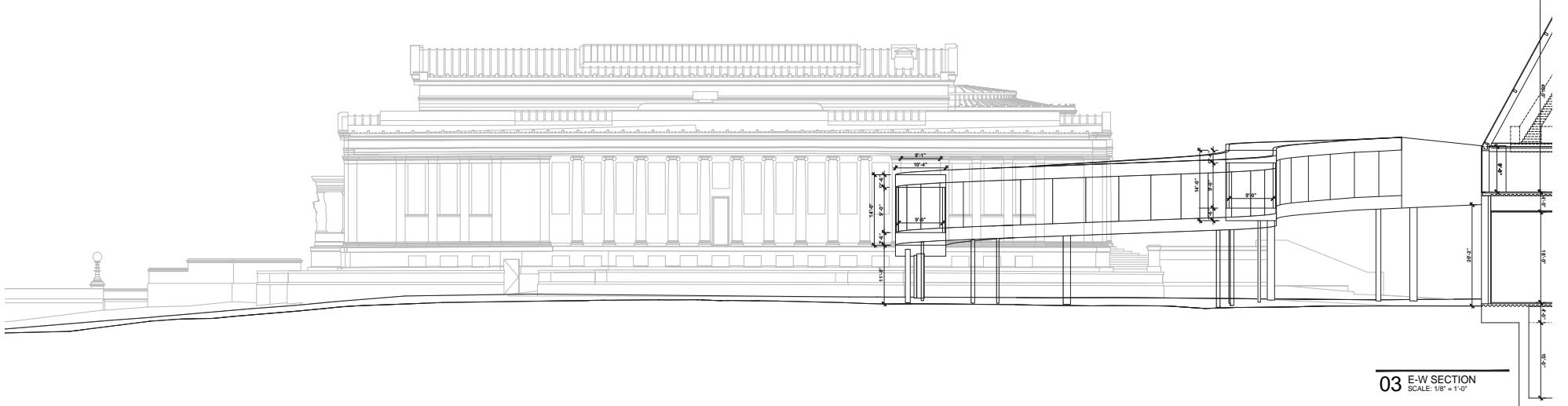
As the scale of artwork has only increased over the past sixty years, the Albright-Knox's greatest challenge with respect to caring for its world-class collection and operating an exhibition program is the lack of a loading dock to move large-scale works of art in and out of the building. The largest aperture in either building is at the top of the historic Delaware Stairs on the east side of the 1905 Building (the museum's original entrance).

The absence of a loading dock requires that a crane be deployed to hoist large crated artworks from the bottom of the Delaware Stairs to a purpose-built, temporary landing at the top of the stairs in order to bring such artwork in through the Sculpture Court doors. Although this transport method is against national museum standards and best practices, the limitations of the current buildings require that all large artwork move in and out of the building in this manner. One large-scale sculpture seriously considered for acquisition by the Albright-Knox over the course of two years (2014–16) was ultimately rejected in large part because its crated dimensions (even in multiple parts) were too large to fit through the Sculpture Court doors—an indication that the current facilities have begun to constrain the museum's mission as a collecting institution. The lack of loading dock access to the galleries of the 1905 Building is its greatest weakness.



1905 NORTH BUILDING BRIDGE CONNECTION GALLERY LEVEL

With the proposed North Addition, a proper loading dock is currently being planned along with an accessible bridge to connect the loading functions of the proposed North Building with the 1905 Galleries. This will greatly increase the museum's functionality and align our art receiving and placement abilities with national standards for the care of art.



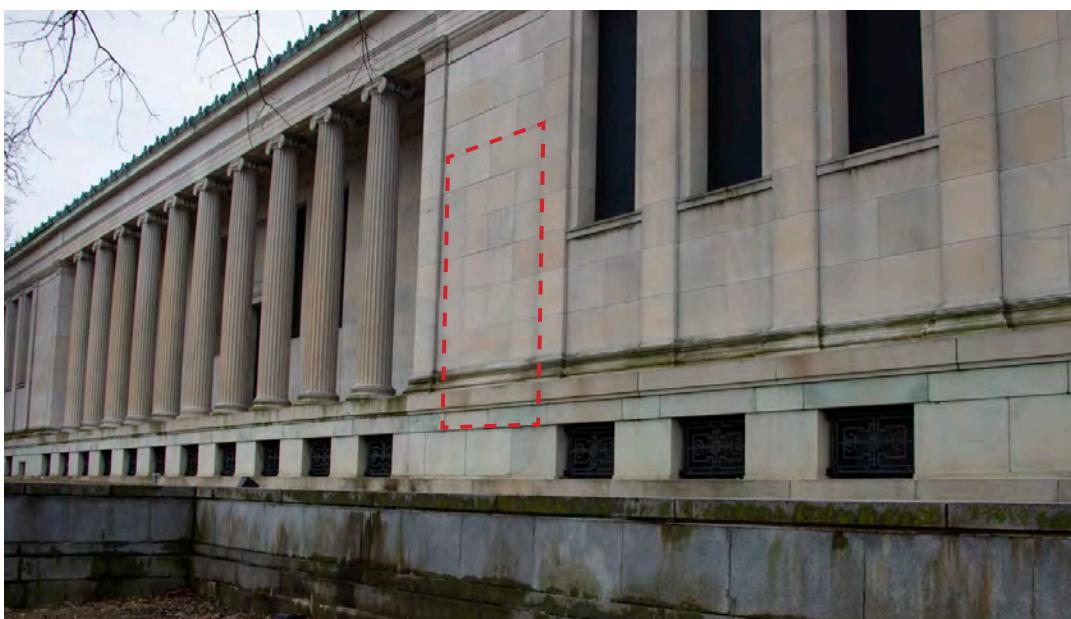
1905 NORTH BUILDING BRIDGE CONNECTION

The Bridge is thoughtfully designed to provide a low sloped path for the movement of art and visitors in a manner that minimizes the impact and preserves the existing old-growth oak trees. The structure of the bridge is cast in place concrete with a steel frame mounted on top to provide structure for the enclosure. The bridge walls will be clad with full height mirrored glazing, adding a sense of depth and movement. The roof, which will be visible from the North building , will be clad with metal roofing panels.

The moment insertion of the bridge into the 1905 existing facade was coordinated such that we minimized disruption to the historic pilasters and window openings. It is our intention to remove and store the stone needed to create the opening and save it for the necessary facade repairs.

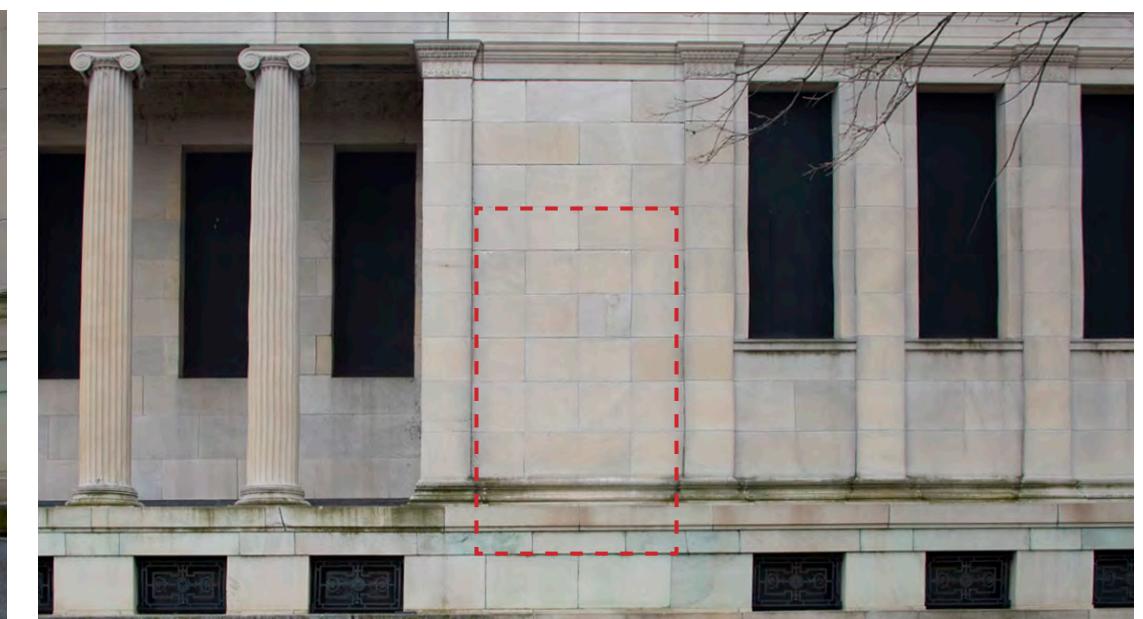
In addition, we were able to taper the structure and minimize the touchpoint of the bridge on the 1905 facade by locating all the mechanical equipment serving the bridge in the proposed North Addition. While this means we have a less efficient air distribution system, it allows for this most minimal interface possible.

EXISTING



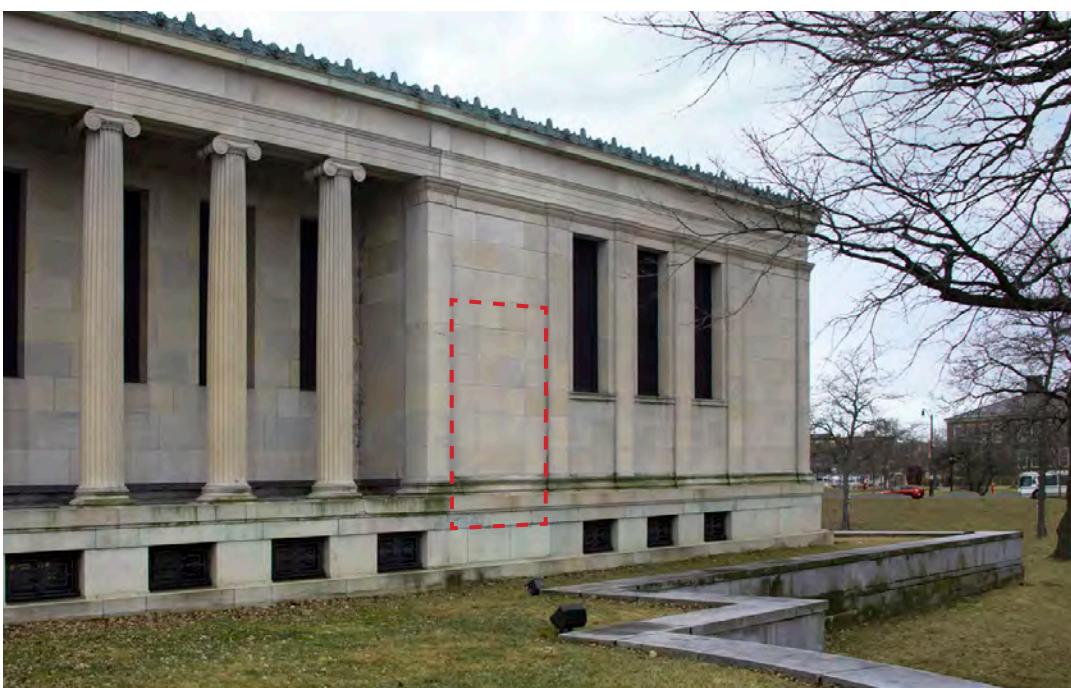
1. 1905 Current Facade, from Northeast corner

EXISTING



2. 1905 Current Facade

EXISTING



3A. 1905 Current Facade, from Northwest

PROPOSED



3B. Proposed Bridge Connection, Exterior of 1905

1905 NORTH BUILDING BRIDGE CONNECTION GALLERY LEVEL

The penetration into the Gallery 16 was designed such that we matched the height of the existing gallery portals, providing a seamless user experience from gallery to bridge.

EXISTING



1. 1905 Current Gallery

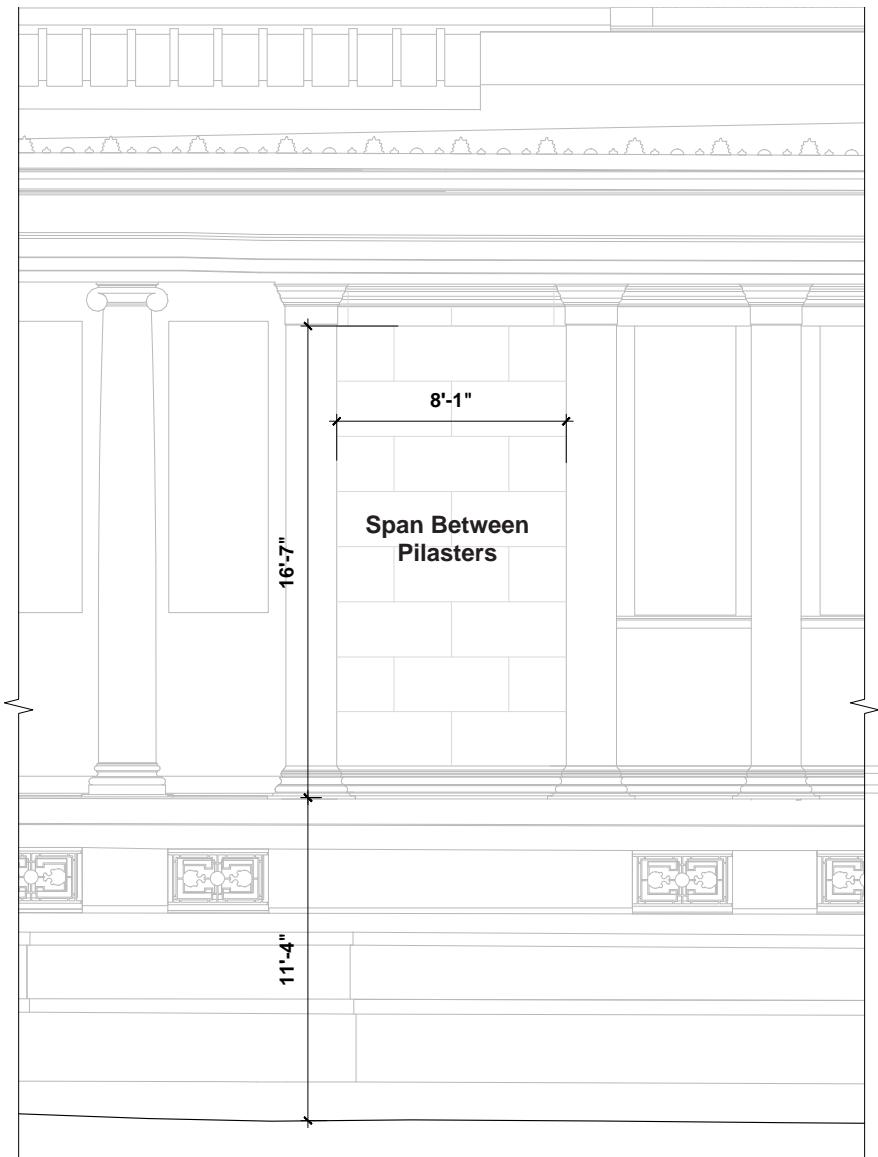
PROPOSED



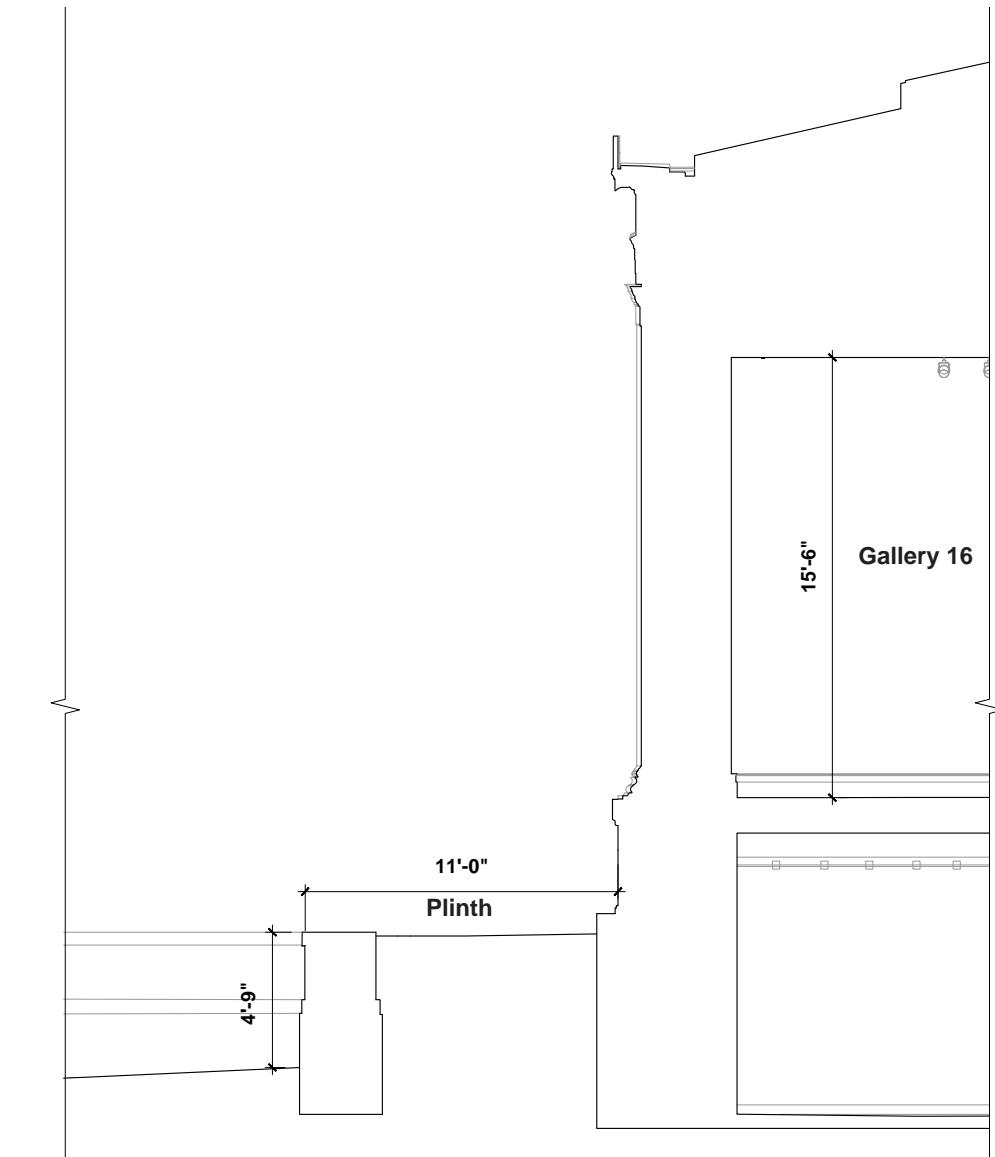
2. 1905 Bridge Connection

**1905 NORTH BUILDING
BRIDGE CONNECTION
GALLERY LEVEL**

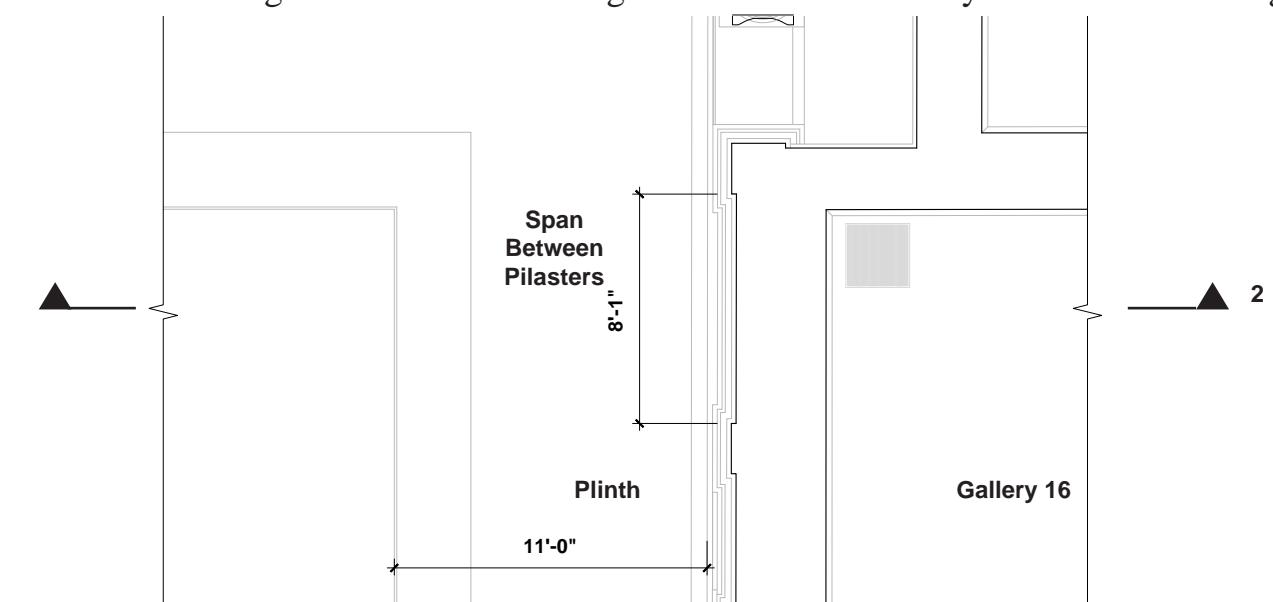
Drawings of Existing Conditions
showing 1905 Building at North
Elevation and Gallery 16



1. Existing North Elevation at 1905 Building



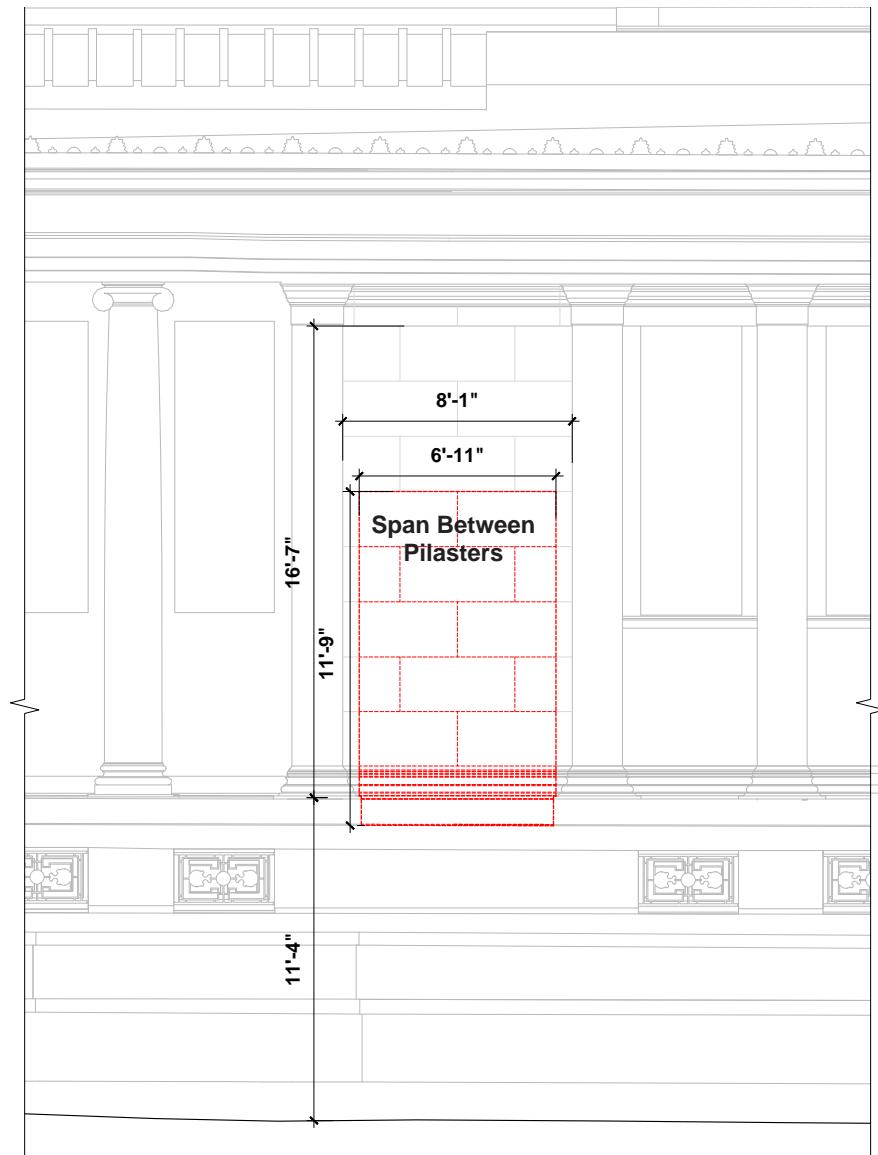
2. Longitudinal Section through North Wall of Gallery 16 at 1905 Building



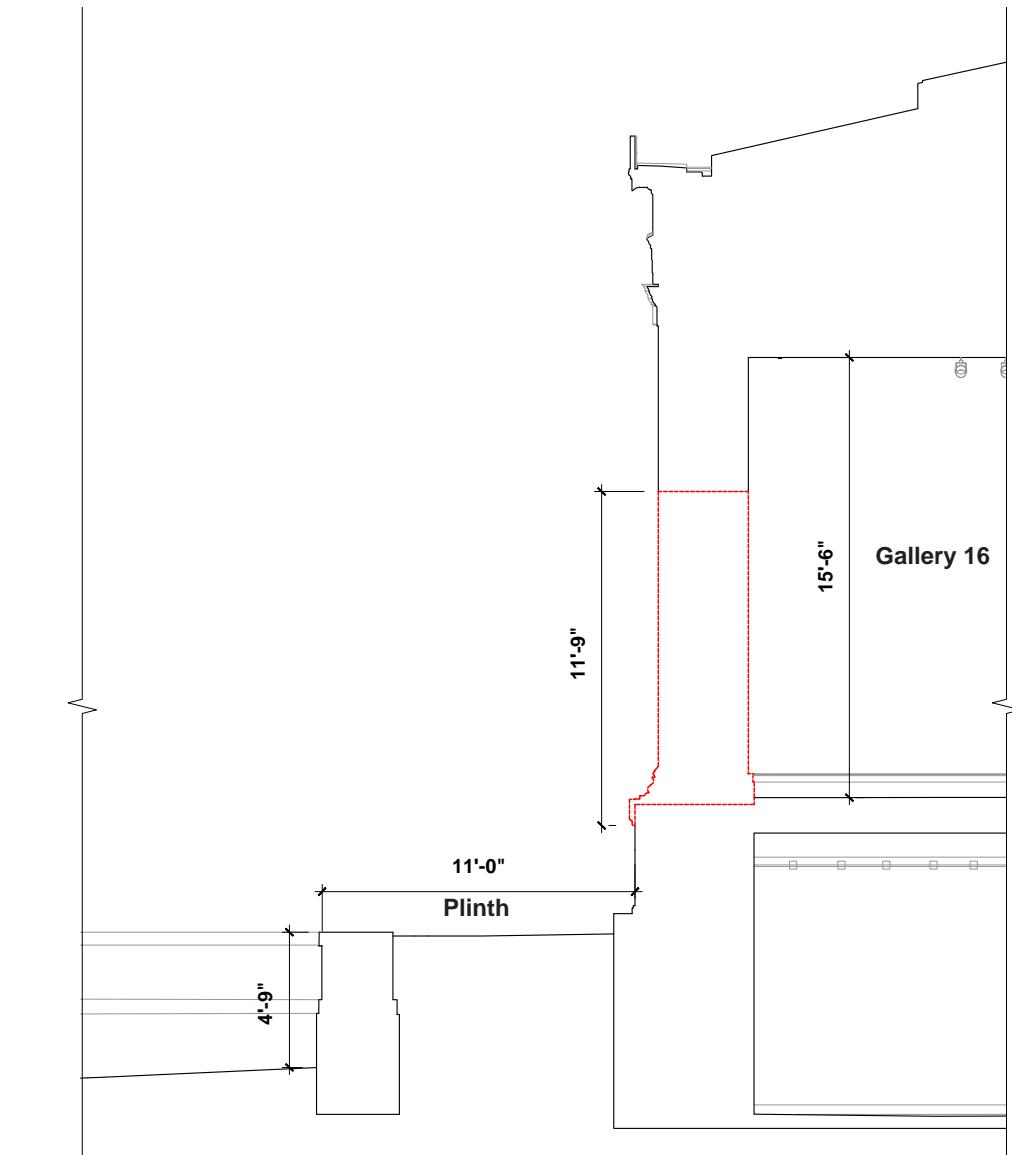
3. Plan at North-East Corner of Gallery 16 at 1905 Building

1905 NORTH BUILDING BRIDGE CONNECTION GALLERY LEVEL

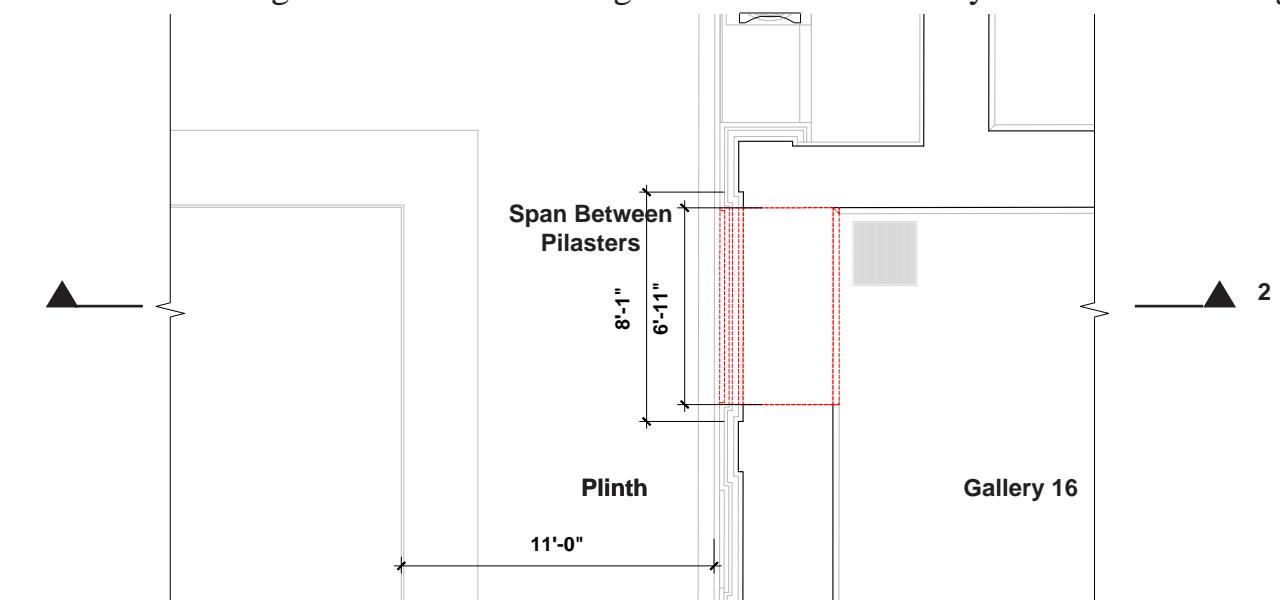
Drawings of Existing Conditions
showing proposed removal of material
at 1905 Building at North Elevation
and Gallery 16 for Bridge insertion.



1. Selective Removal of North Elevation at 1905 Building



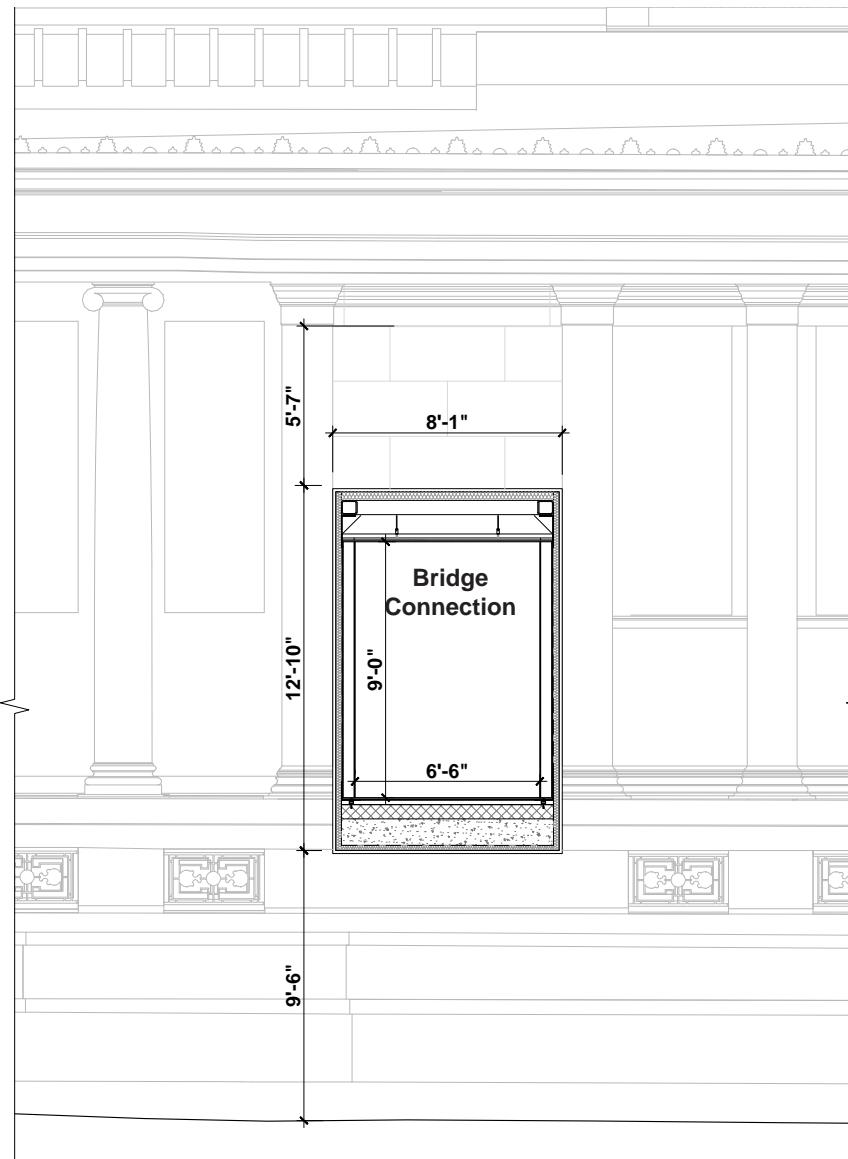
2. Longitudinal Section through North Wall of Gallery 16 at 1905 Building



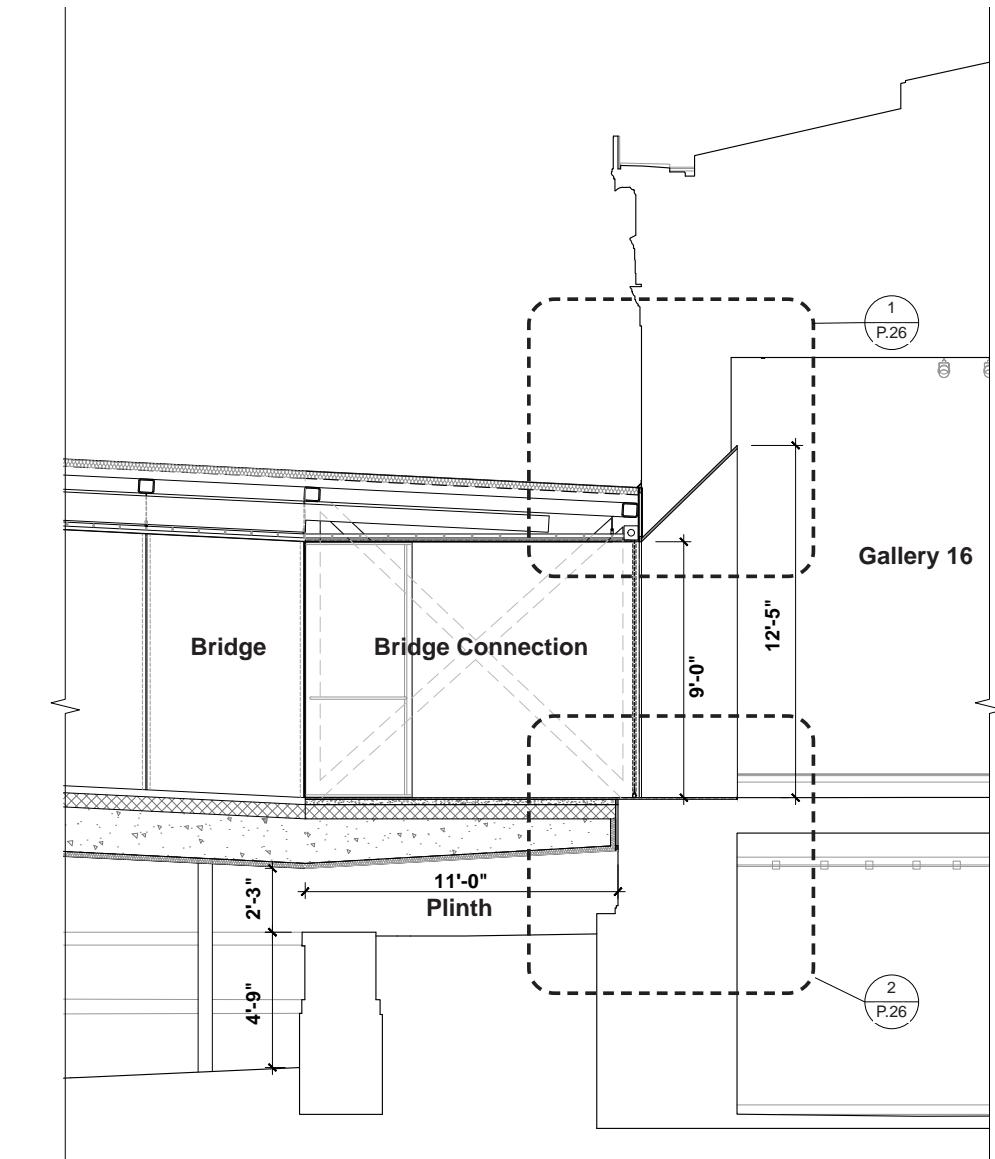
3. Plan at North-East Corner of Gallery 16 at 1905 Building

**1905 NORTH BUILDING
BRIDGE CONNECTION
GALLERY LEVEL**

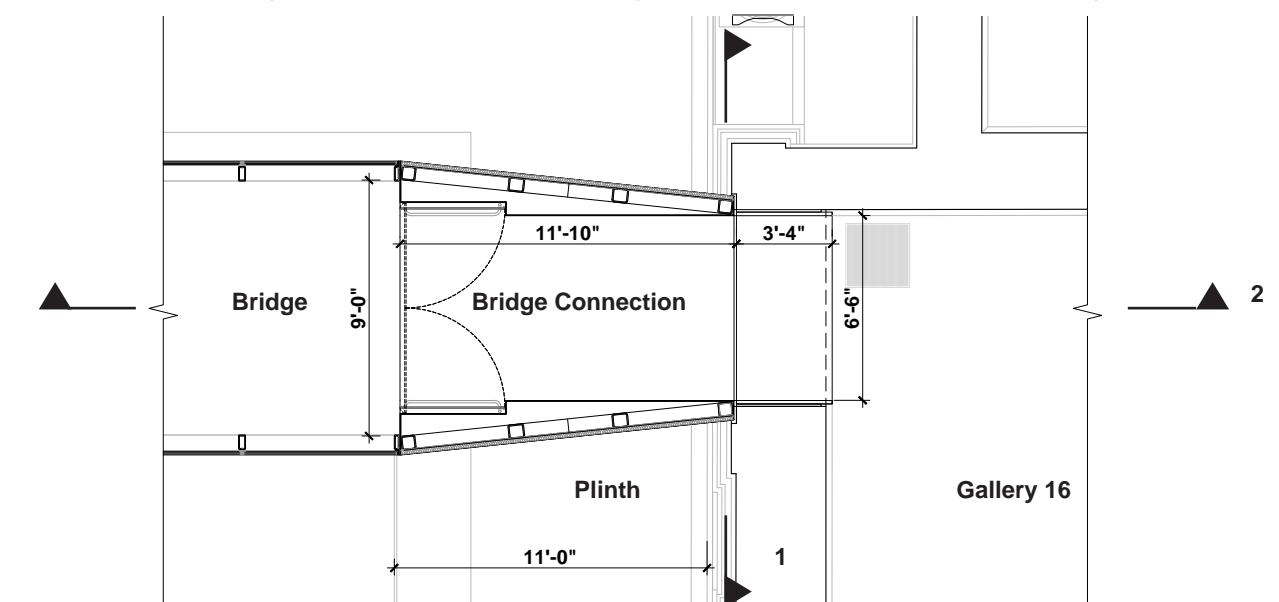
Drawings of Proposed Bridge Connection at 1905 Building.



1. Transversal Section of Bridge Connection at 1905 Building



2. Longitudinal Section at Bridge Connection at 1905 Building

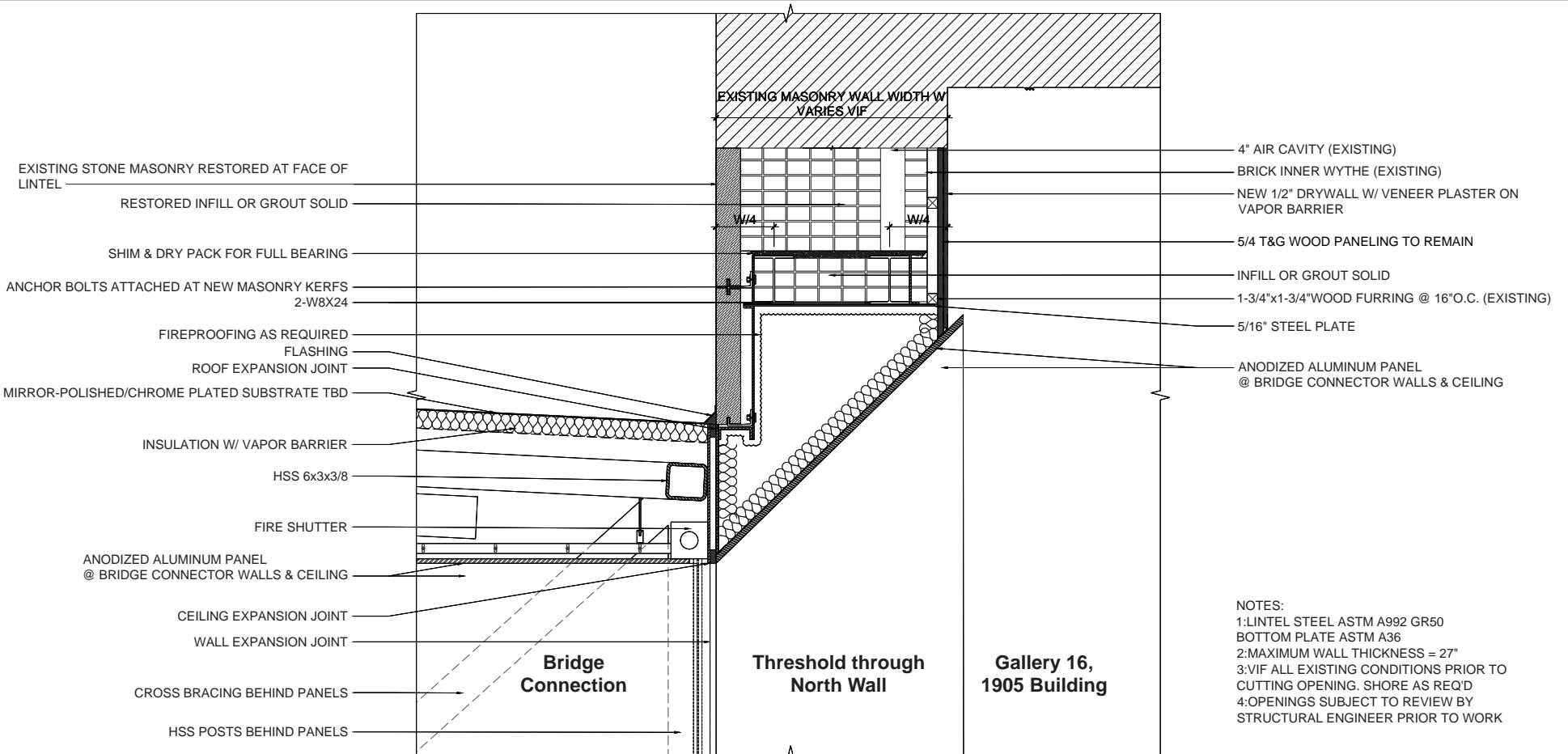


3. Plan at Bridge Connection at 1905 Building

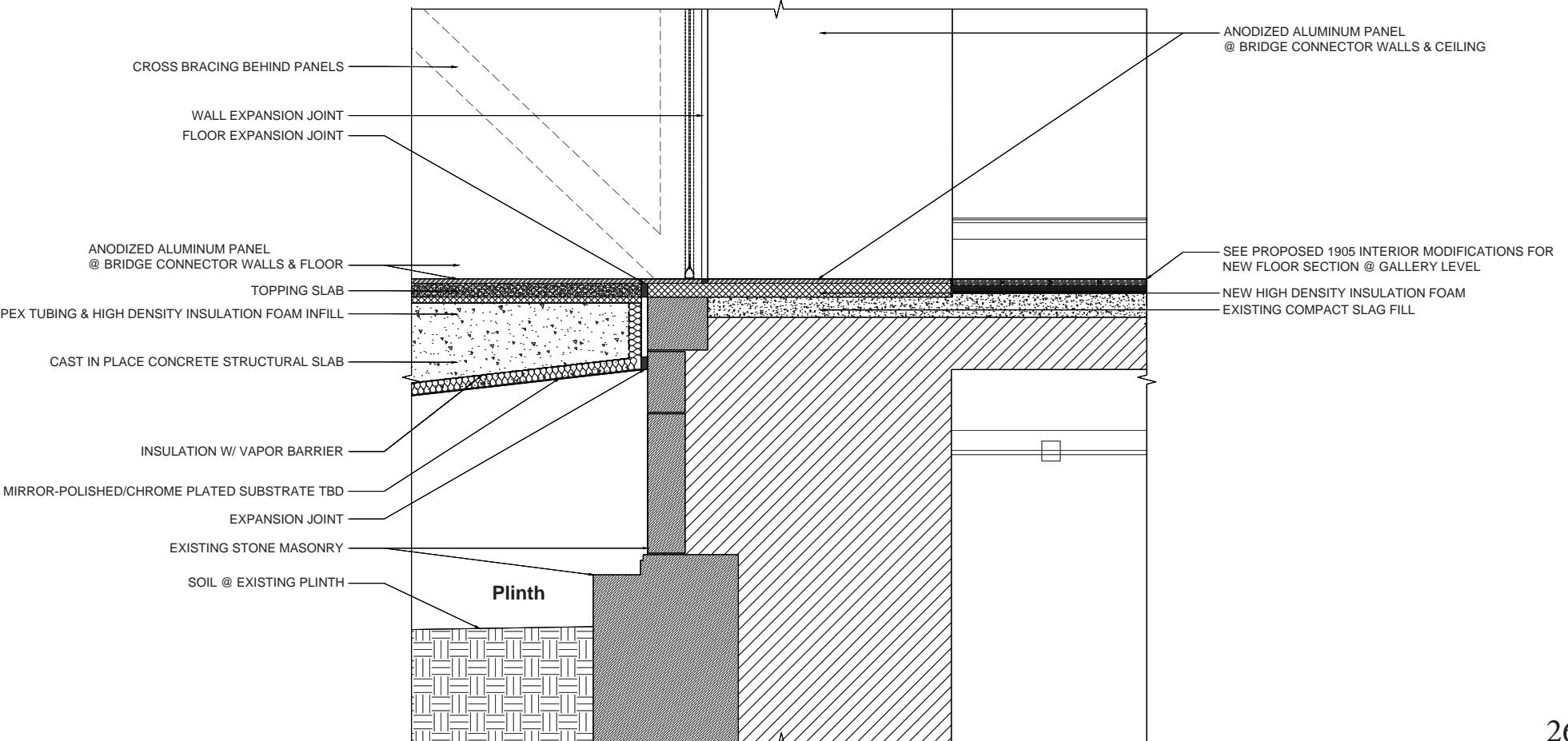
1905 NORTH BUILDING BRIDGE CONNECTION GALLERY LEVEL

Section Details of Proposed Bridge Connections at 1905 Building.

1. Section Detail at Top of Bridge Connection



2. Section Detail at Bottom of Bridge Connection



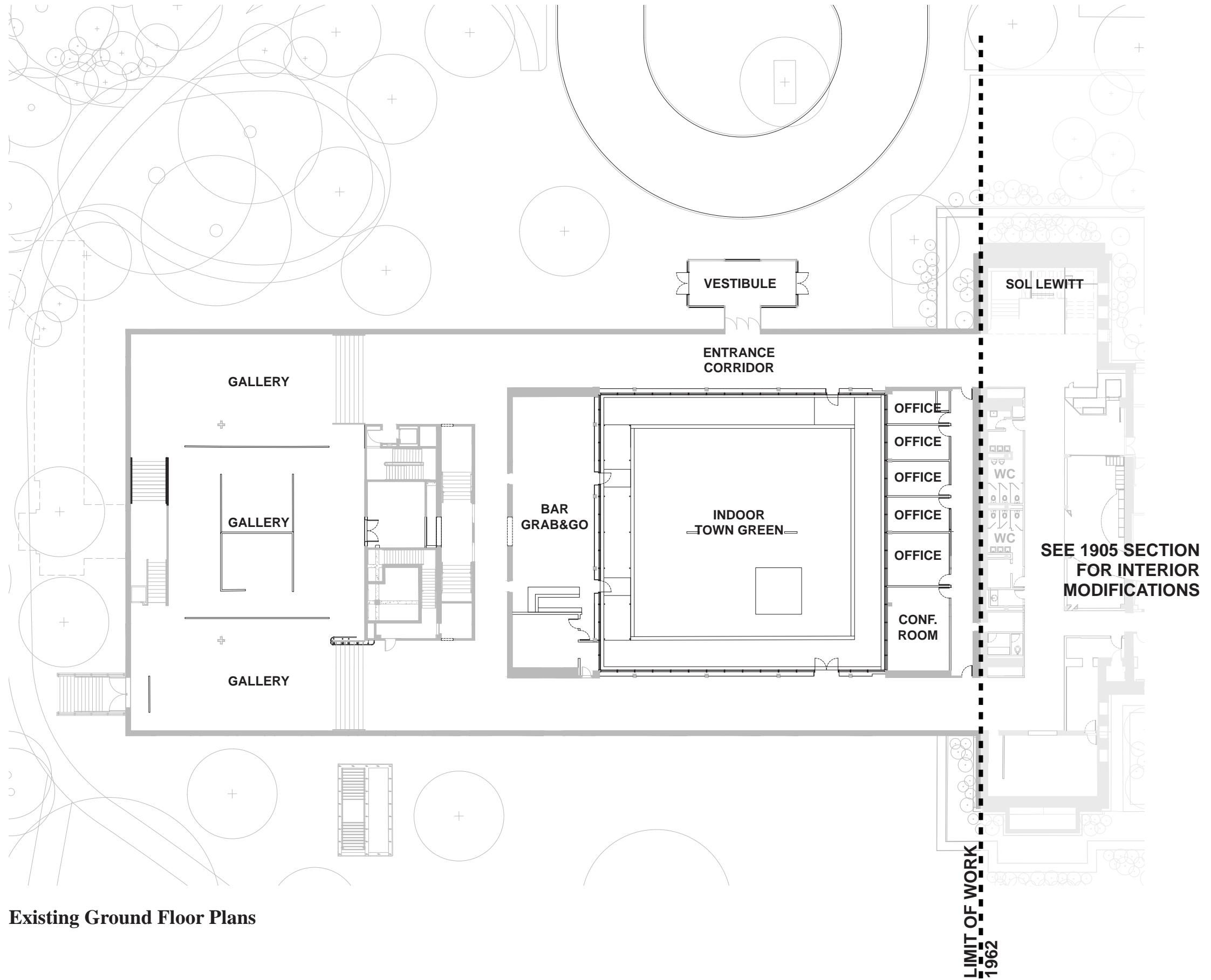
1962 BUILDING

1962 BUILDING

The 1962 Building is an approximately 30,000 square foot addition to the 1905 Building. It comprises a “black box” that houses an auditorium situated atop a marble-walled platform, which contains corridors that accommodate the bulk of the building’s functions. These functions include gallery space, a small restaurant several offices, and a large open-air Sculpture Garden.

A one-story aluminium and glass vestibule protruding from the western elevation serves as the museum’s entrance. The addition is split along its east-west axis into two equal sections. The northern half is defined by a large square Sculpture Garden that measures approximately 80 x 80 feet and is surrounded by aluminium and glass windows that look into the restaurant, exhibition galleries, and offices. The southern half is defined by the 80 x 80-foot “black box.” Much of the building’s original layout remains today, with two long hallways that double as gallery space alongside the east and west elevations of the building, a large staircase in the Northwest corner of the 1905 Building that was designed by Gordon Bunshaft to connect the two buildings, a large gallery space in the southern half of the building below the Auditorium, and a central Sculpture Garden flanked on its north and south sides by offices and a small restaurant, respectively. The offices and restaurant largely occupy their original footprint, though there have likely been material changes throughout both. The most intact space in the interior is the Auditorium, which is accessed by two long staircases and opens up into a large open volume enclosed by full-width glass curtain walls. A shallow stage is located at the center of the north side of the room, and approximately 10 to 12 rows of original chairs on slight risers extend from the stage to the back of the room. A small elevator and staircase were added at the western end of the stage.

Existing Ground Floor Plans



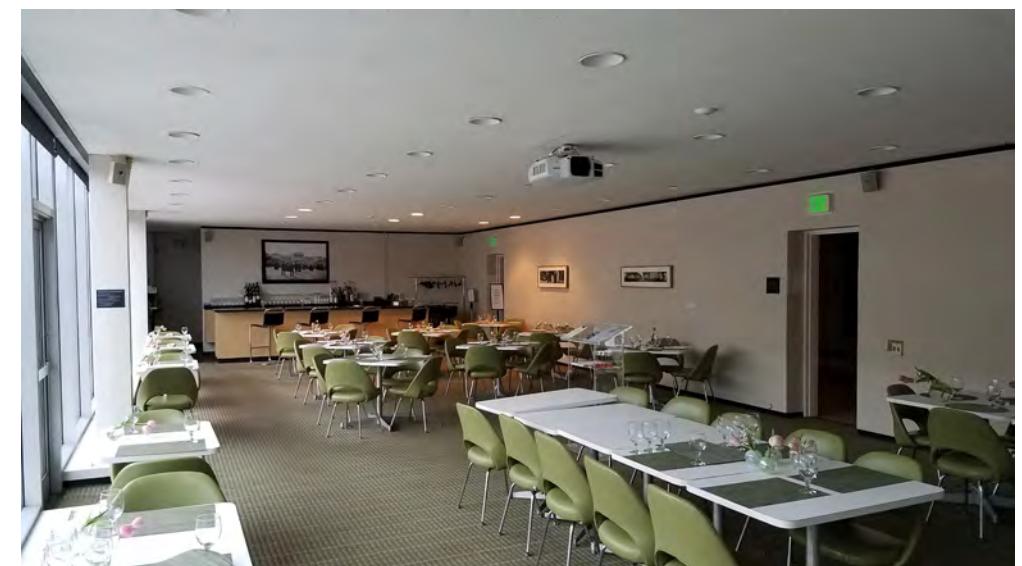
1962 BUILDING

Photography of Existing 1962 Building

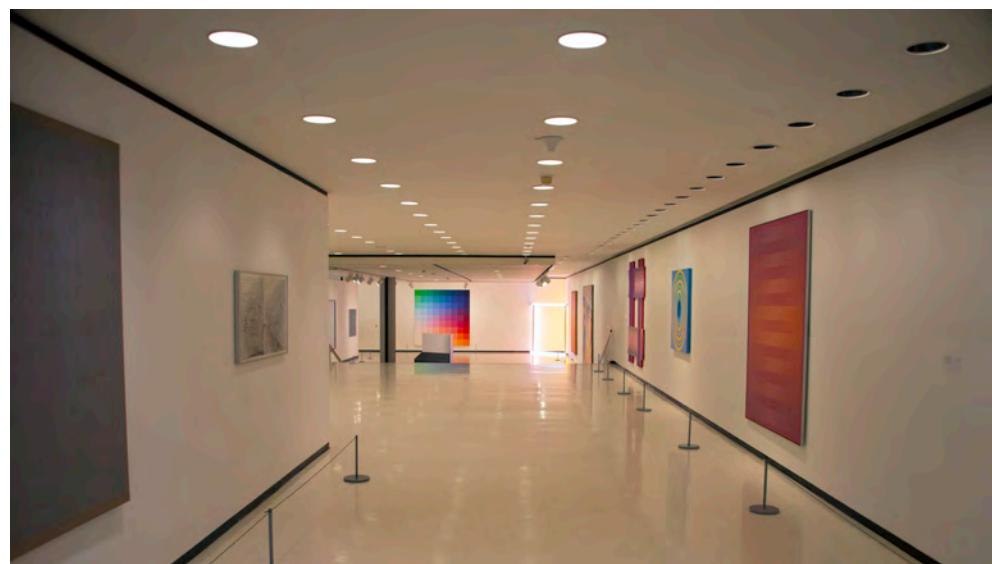
The inconsistency and variety of dimensions and shapes of the gallery spaces of the 1962 Building present a perpetual challenge. These galleries are either very long and narrow or rectangular. The majority of gallery space in the 1962 Building is in the corridors, where ceiling heights of 8 feet 11 inches do not permit installation of works taller than approximately 6 feet. This presents a significant limitation on the works that can be installed in these spaces, as many artists working after the 1950s did so on canvases that exceed 6 feet in height. Furthermore, it is difficult to provide for an appropriate viewing distance from larger works given the narrowness of the corridors, which measure 11 feet (north and south corridors) or 14 feet 9 inches wide (east and west corridors). The installation of sculpture in these corridors also causes jams in visitor flow that endanger the safety of artworks; sculptures could be knocked over by visitors in crowded spaces, and nearby paintings are at risk of touches and bumps.



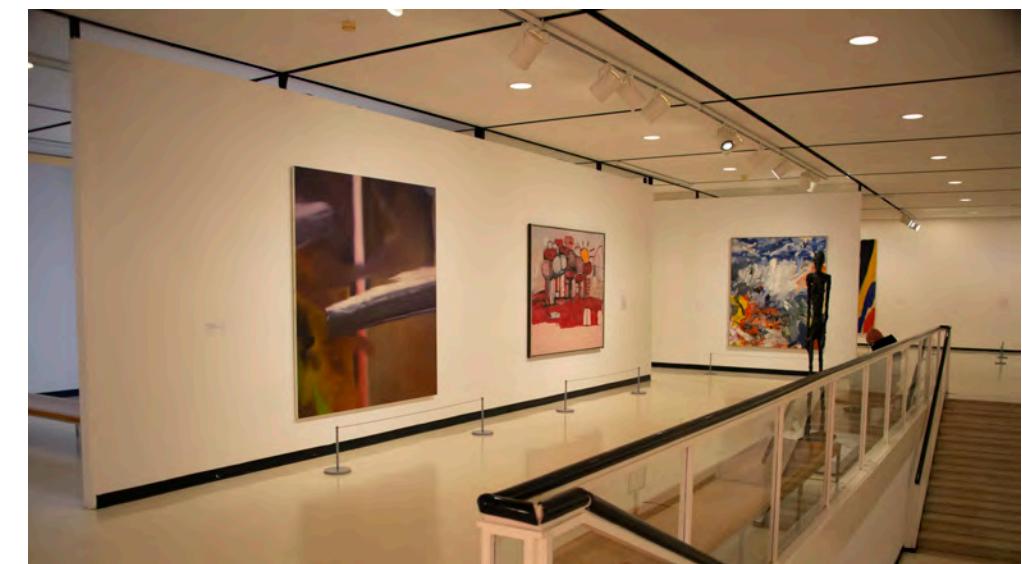
1. 1962 Building's Entrance Corridor



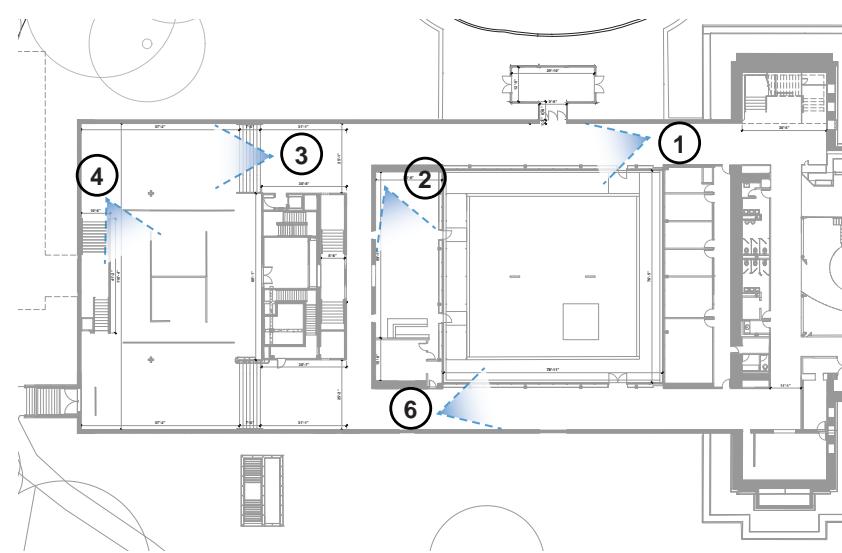
2. 1962 Building's Cafe



3. 1962 Building's West Corridor



4. 1962 Building's Gallery



5. 1962 Building's East Corridor

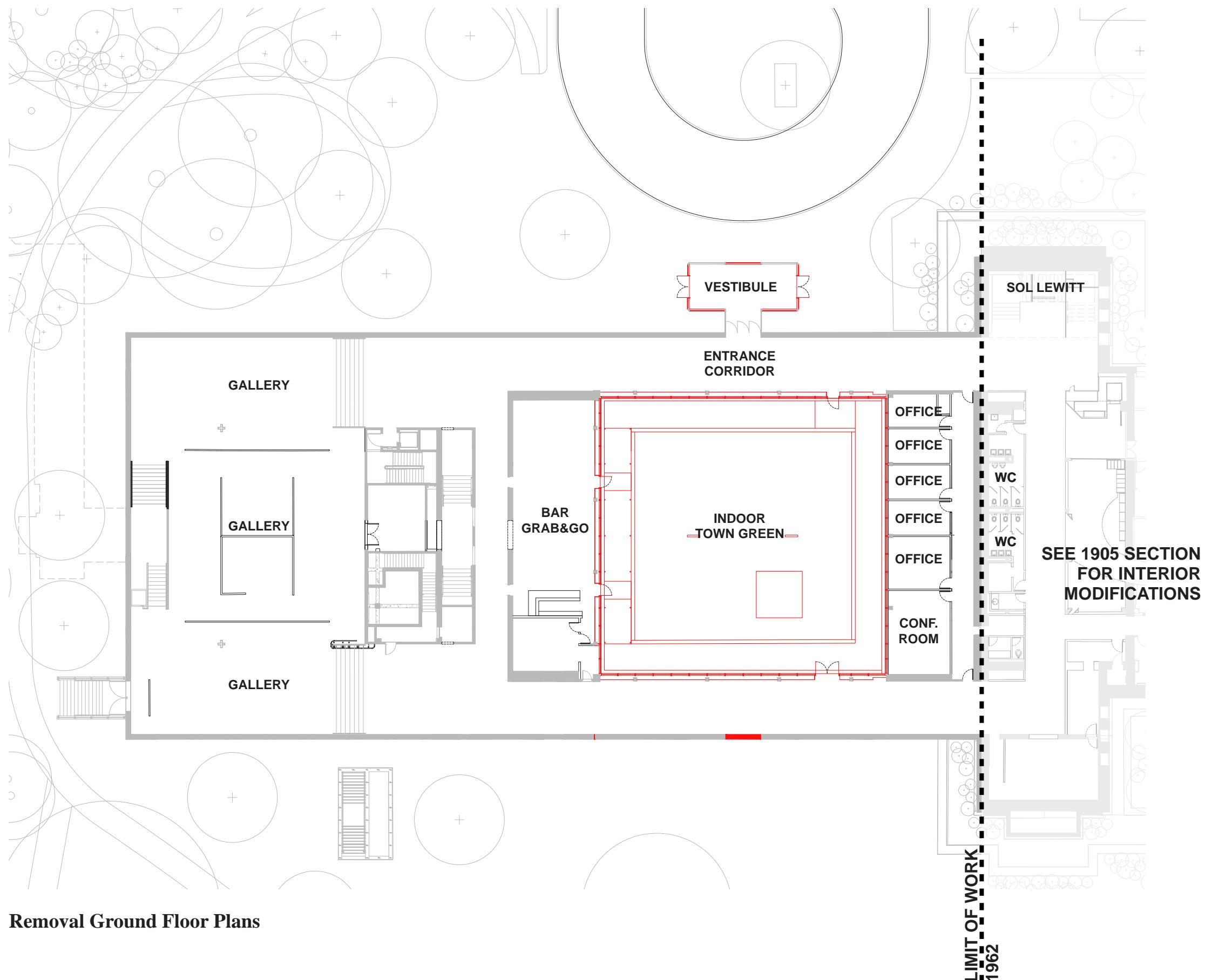
1962 BUILDING

Removal Ground Floor Plan

The Albright-Knox will continue to serve its historic purpose as an art museum and center for art education. Key to the continuation of these functions is the expansion of program spaces and the functional requirements to support them. Although the buildings have continued to be used as a museum, the use of the 1962 Building has changed.

While its original use orbited around the Auditorium and Members' lounge and courtyard, we envision its uses to be expanded to include, along with the Auditorium, a free public indoor town green, a new education wing and a single upgraded 2000 sf exhibition space.

Changes proposed will dramatically increase the functionality and use of the 1962 Building, thus ensuring its viability and ongoing preservation. Additionally, the majority of the exhibition space in the 1962 Building is unable to accommodate the display of today's larger artworks and their movement through the building for installation or to meet museum standards for visitor proximity to the art.



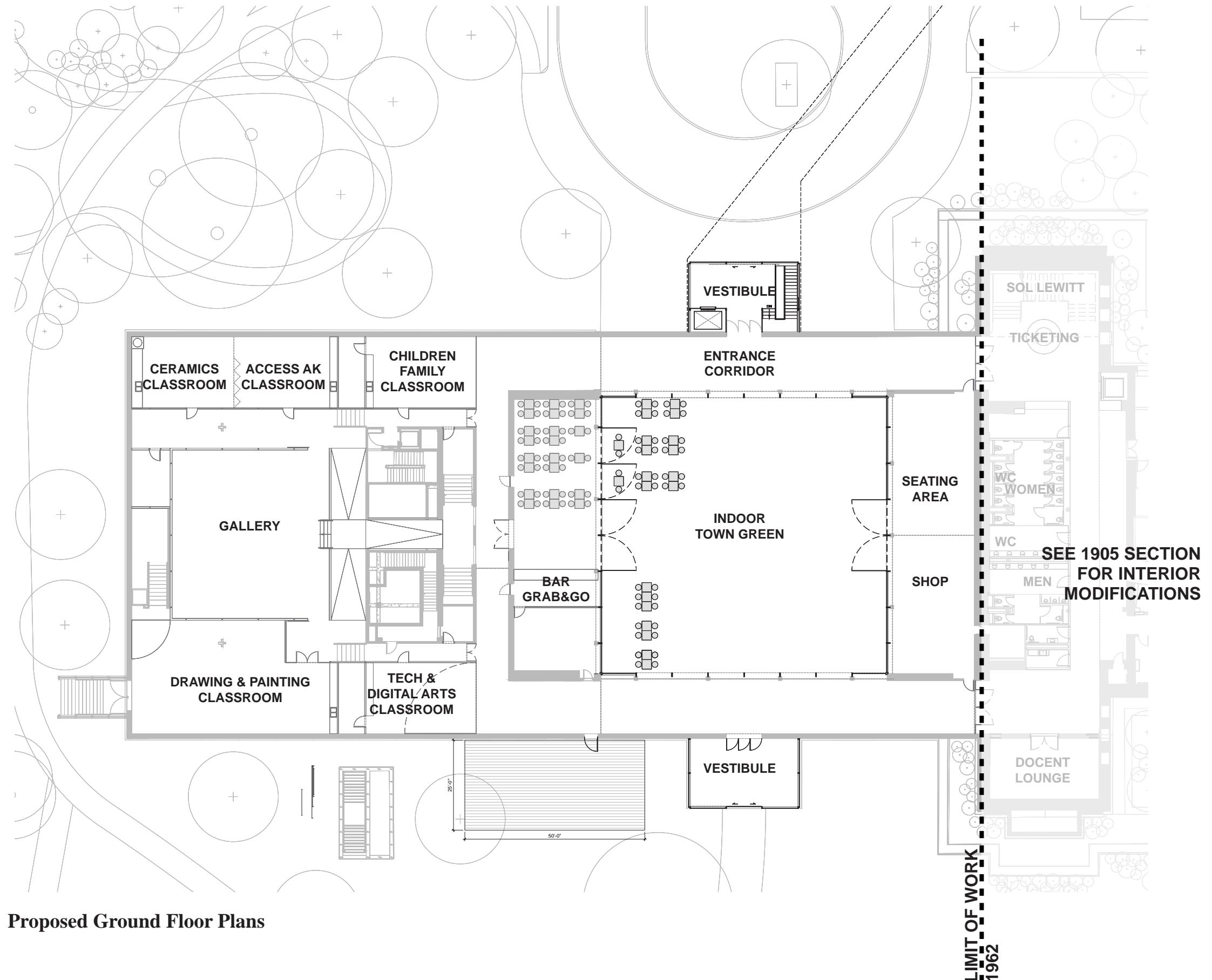
1962 BUILDING

Proposed Ground Floor Plan

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1962 BUILDING WEST VESTIBULE RECONSTRUCTION AND EXPANSION

WEST VESTIBULE RECONSTRUCTION AND EXPANSION

Existing West Vestibule

This existing vestibule—with its side-facing main doors and single, narrow opening into the museum will be extended to connect to the building and preserve the original marker. This extension is needed to accommodate accessible access from the new proposed tunnel that provides an accessible route to the new underground parking structure.

Crowds regularly back up and gather at the museum's entrance, especially in cold weather, which results in incidents of bumping, leaning, and touching artworks that endanger their safety and compromise the museum's ability to care for its collection.



1. 1962 West Vestibule - Watercolor rendering of Gordon Bunshaft's proposed addition to the Albright Art Gallery



2. 1962 West Vestibule - Elmwood Avenue Entrance to the 1962 Building



3. 1962 West Vestibule

1962 BUILDING

WEST VESTIBULE RECONSTRUCTION

AND EXPANSION

Existing West Vestibule Expansion

Images show side by side representation of existing West Vestibule and proposed expanded West Vestibule.

There are sliding glass doors proposed on the West Facade to facilitate entering on the East / West axis that now connects you to Delaware Park.

We intend to carefully dismantle by hand to the greatest extent possible and transfer the components of the historic West Vestibule to secure storage. The historic materials shown will be numbered and keyed into indexing diagrams to facilitate the re-instatement.

EXISTING



1A. 1962 Current West Vestibule - Northwest corner

PROPOSED



1B. Proposed West Vestibule - Northwest corner



2A. 1962 Current West Vestibule - From Elmwood Avenue

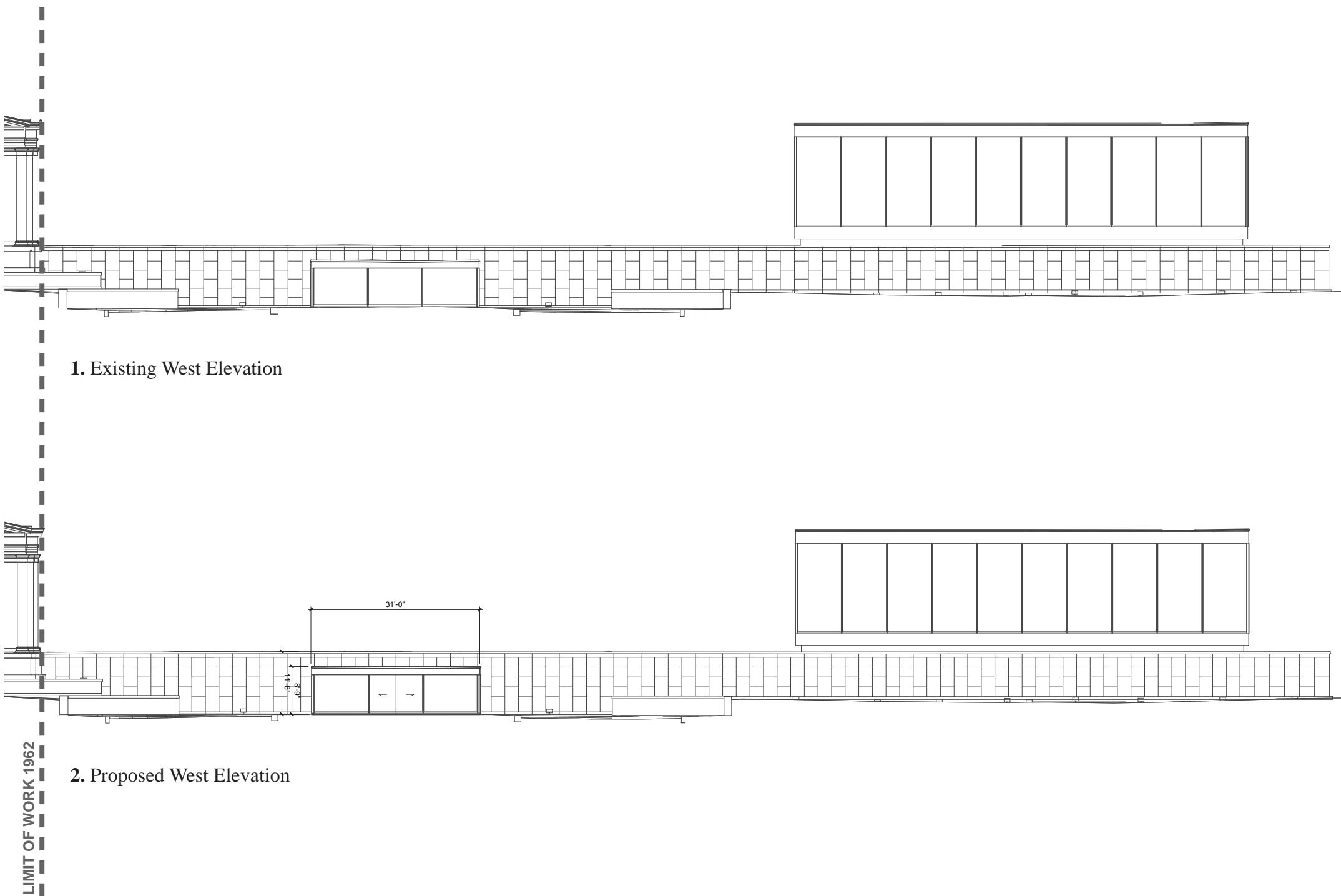


2A. Proposed West Vestibule - From Elmwood Avenue

1962 BUILDING WEST VESTIBULE RECONSTRUCTION AND EXPANSION

Existing West Vestibule Expansion

Existing and Proposed Section and Elevation drawings outlining the scope of the Reconstructed West Vestibule.



1962 BUILDING WEST VESTIBULE RECONSTRUCTION AND EXPANSION

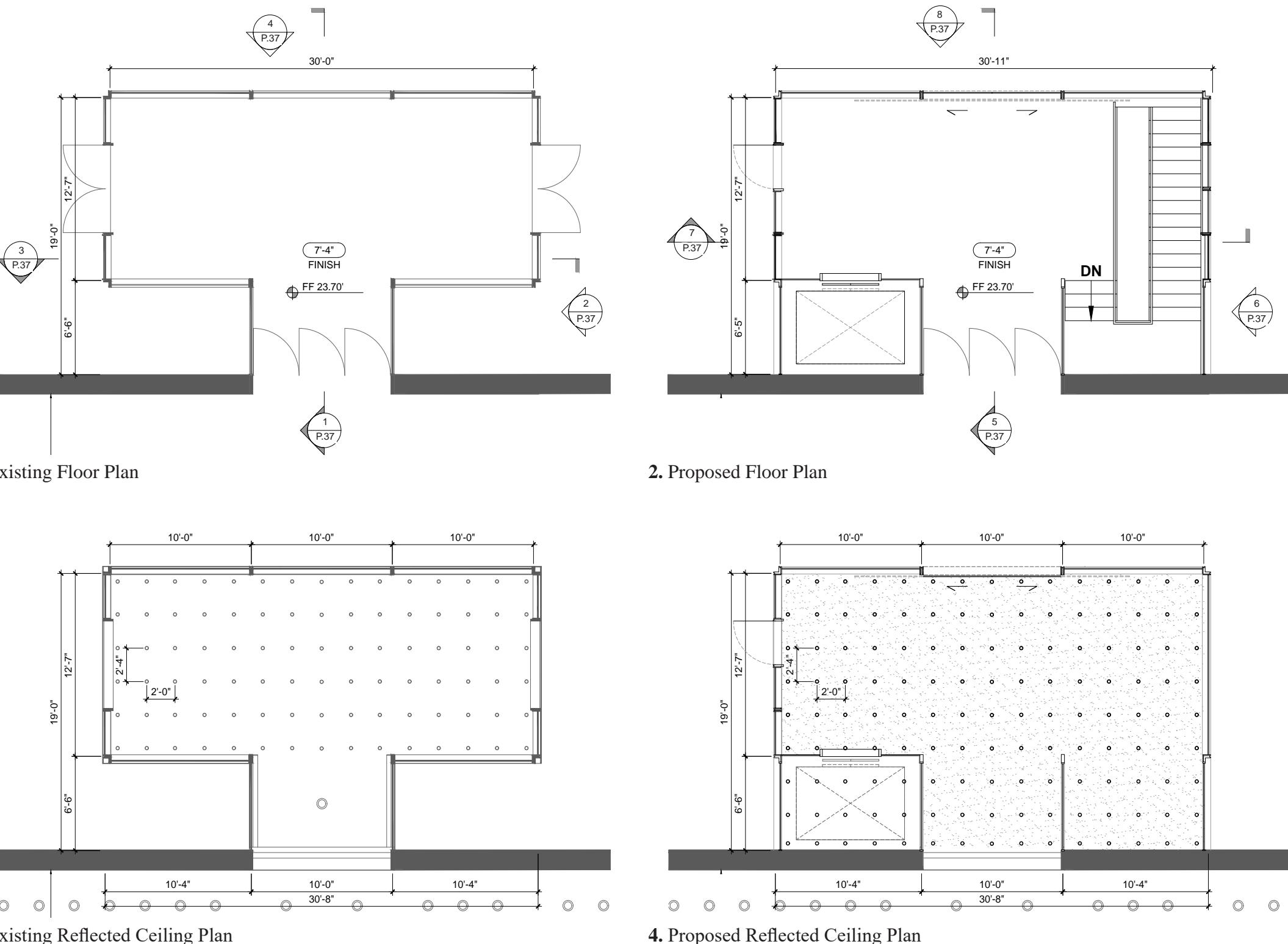
Existing West Vestibule Expansion

Images show side by side representation of existing West Vestibule and proposed expanded West Vestibule.

There are sliding glass doors proposed on the West Facade to facilitate entering on the East / West axis that now connects you to Delaware Park.

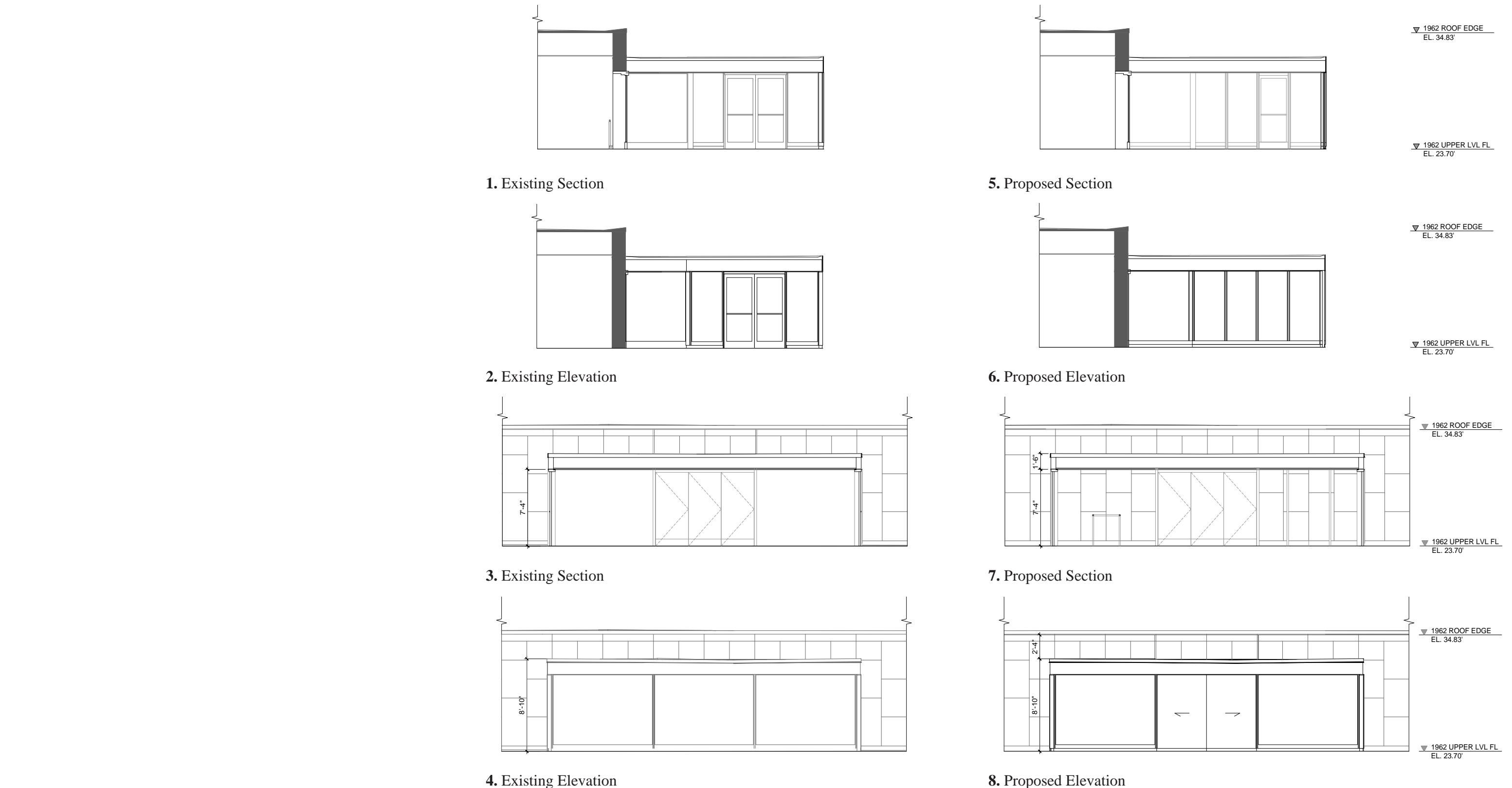
There are two proposed glazed panels that are added on the North and South to enclose the proposed new stair and elevator. These panels have been designed such that they are distinguishable from old work, but compatible with original materials and techniques.

The proposed elevator, moving passengers from the new tunnel that leads to the parking structure, will be constructed of glass such that is a transparent cab in the vestibule. The location of the proposed stair was critical due to maintaining the existing date stone.



1962 BUILDING

WEST VESTIBULE RECONSTRUCTION AND EXPANSION



**1962 BUILDING
NEW EAST VESTIBULE AND EXTERIOR DOOR**

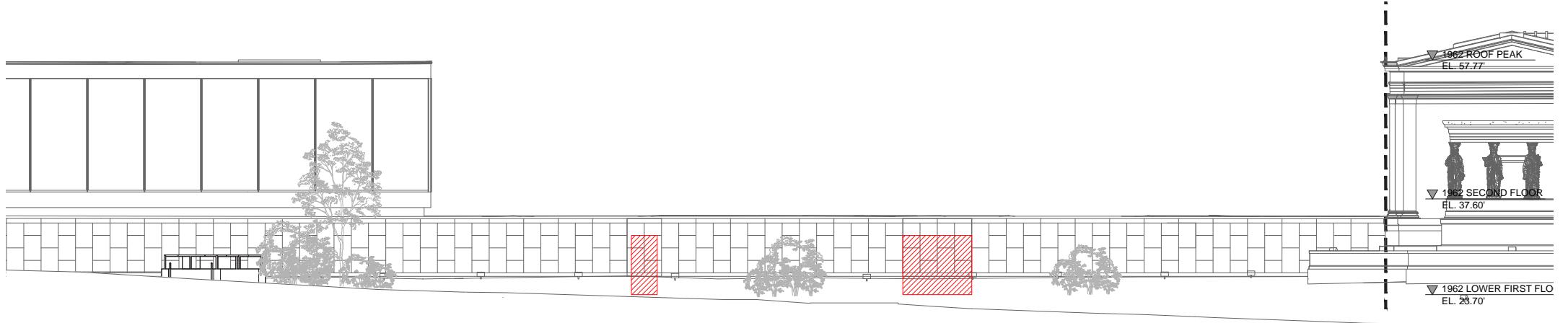
1962 BUILDING NEW EAST VESTIBULE AND EXTERIOR DOOR

New East Vestibule Expansion

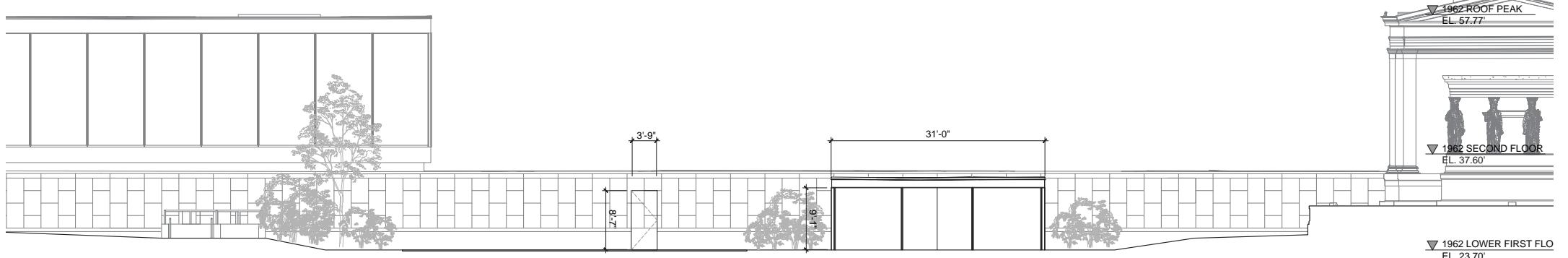
We propose a new Vestibule and Entrance Door on the East Facade in order to connect the East side of Delaware Park with the West Side that borders Elmwood Avenue, creating continuity of the park from East to West through the Indoor Town Green.

This connection was designed to be similar to, and on axis with, the West Vestibule, and requires new penetrations in the East Facade of the 1962 building.

We intend to carefully remove and store the existing marble facade panels for future repair work.



1. Existing East Elevation



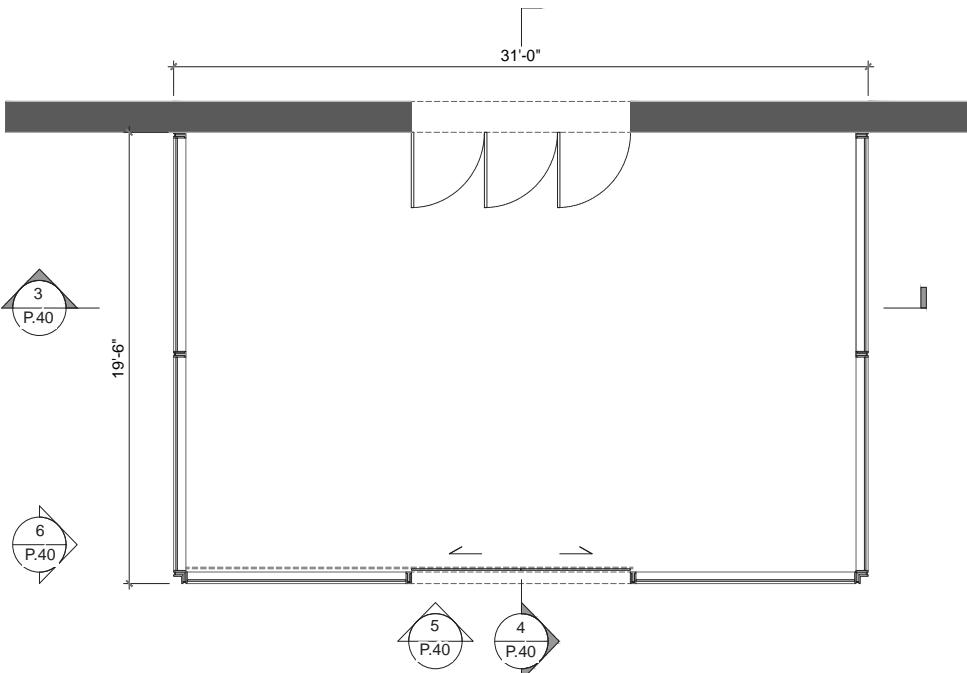
2. Proposed East Elevation

1962 BUILDING

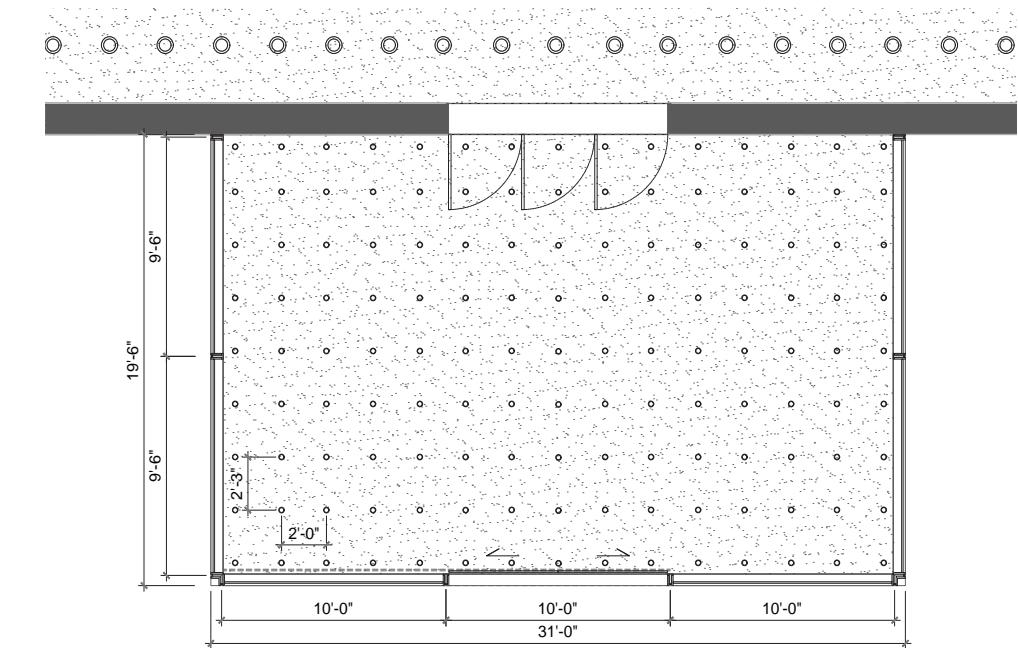
NEW EAST VESTIBULE

New East Vestibule Expansion

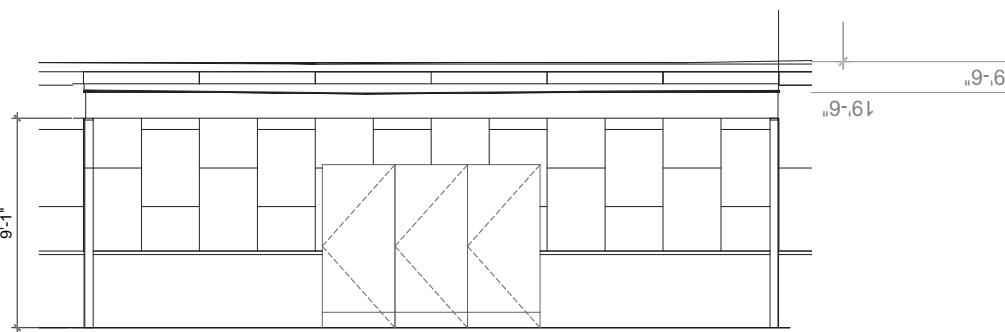
Proposed Plan, Ceiling Plan, Section and Elevations of New East Vestibule.



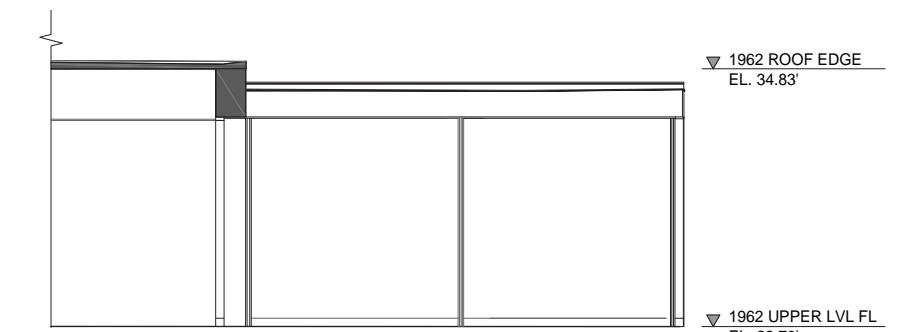
1. Proposed Floor Plan



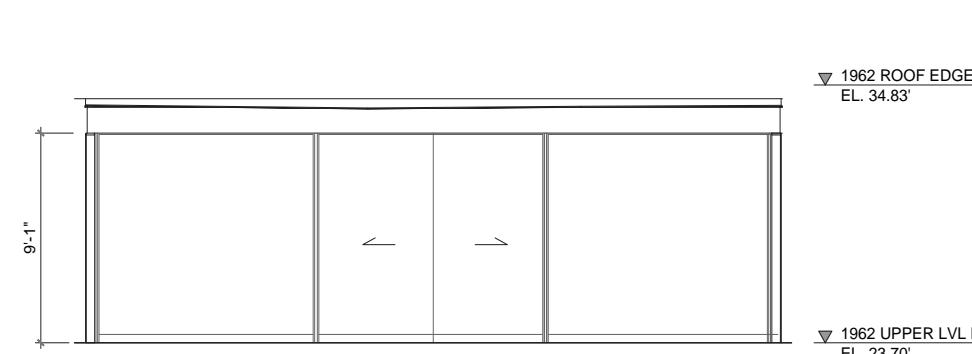
2. Proposed Reflected Ceiling Plan



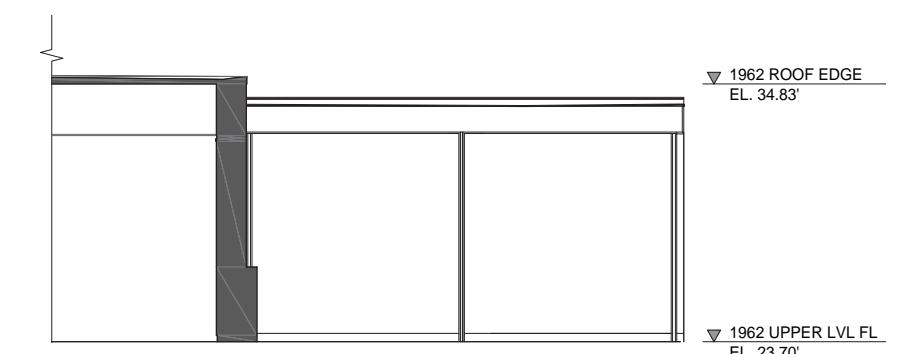
3. Proposed Section



4. Proposed Section



5. Proposed East Elevation



6. Proposed North Elevation

1962 BUILDING NEW EAST VESTIBULE AND EXTERIOR DOOR

New East Vestibule Expansion

Photograph and rendering of proposed New East Vestibule in context of the Existing 1962 and 1905 facade.

EXISTING



1A. 1962 Current East Wall, Northeast Corner

PROPOSED



1B. Proposed New East Vestibule, Northeast Corner



2A. 1962 Current East Wall

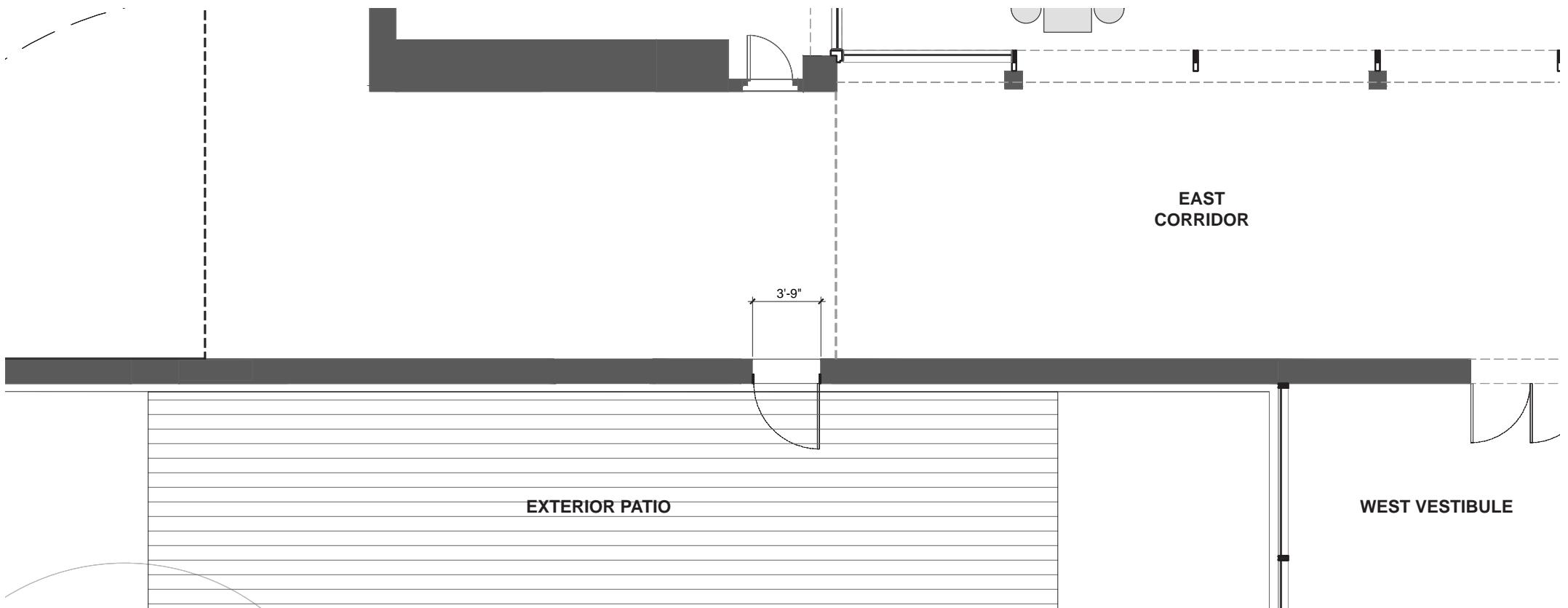


2B. Proposed New East Vestibule

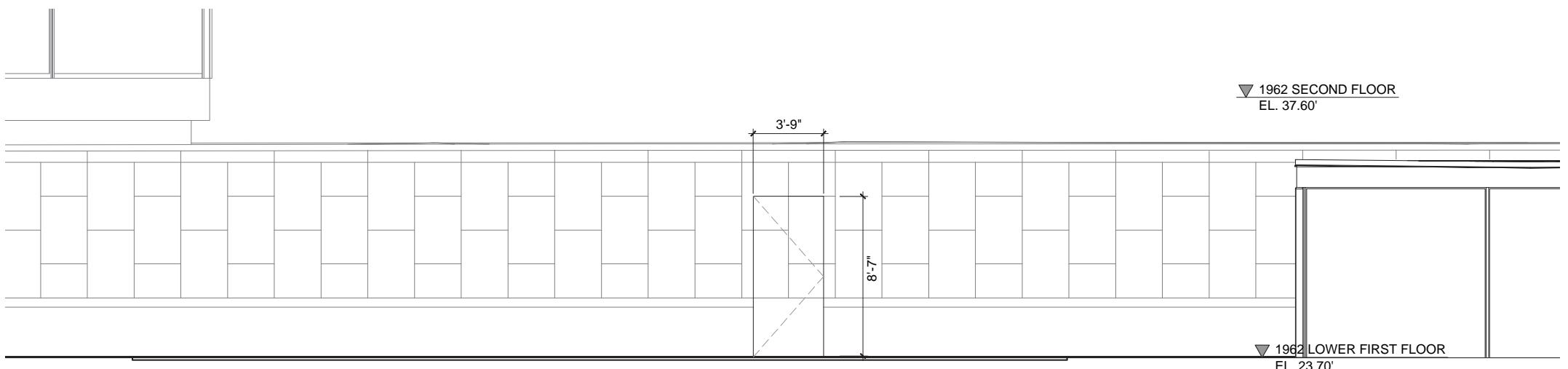
1962 BUILDING NEW EAST EXTERIOR DOOR

New East Exterior Door

Plan and elevation of proposed new door on East Facade.



1. Proposed East Exterior Door Plan



2. Proposed East Exterior Door Elevation

1962 BUILDING NEW EAST VESTIBULE AND EXTERIOR DOOR

New East Exterior Door

Photograph and Rendering of proposed new door on East Facade.

The door is intended to be clad in the same marble to minimize the visual impact on the facade.

EXISTING



1A. Existing East Exterior Wall of 1962 building

PROPOSED



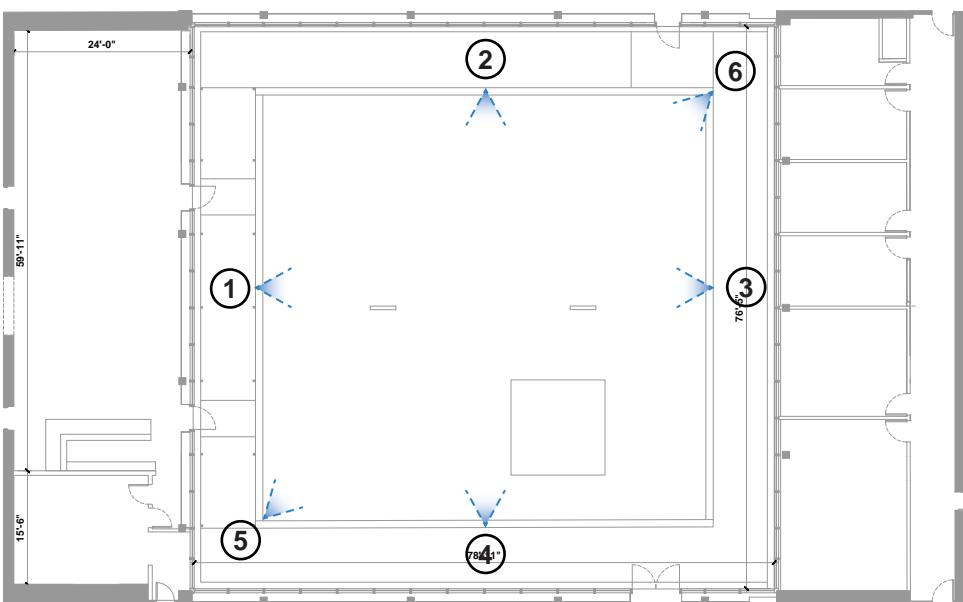
1B. Proposed East Exterior Door to Patio

1962 BUILDING
COURTYARD
INDOOR TOWN GREEN

1962 BUILDING COURTYARD

1962 Photography of Existing Exterior Courtyard

The Sculpture Garden, in its original and current configuration, was never fully functional, due to Buffalo's climate. Changes proposed will dramatically increase the functionality and use of the 1962 Building, thus ensuring its viability and ongoing preservation. We propose to do this by creating a welcoming, beautiful, calming, and inspiring Indoor Town Green that serves as a free space for visitors that extends the public space of the surrounding Delaware Park into and through the 1962 building.



EXISTING CONDITION PHOTOGRAPHY KEY PLAN



1. 1962 Courtyard looking North



2. 1962 Courtyard looking West



3. 1962 Courtyard looking South



4. 1962 Courtyard looking East



5. 1962 Courtyard looking North-West



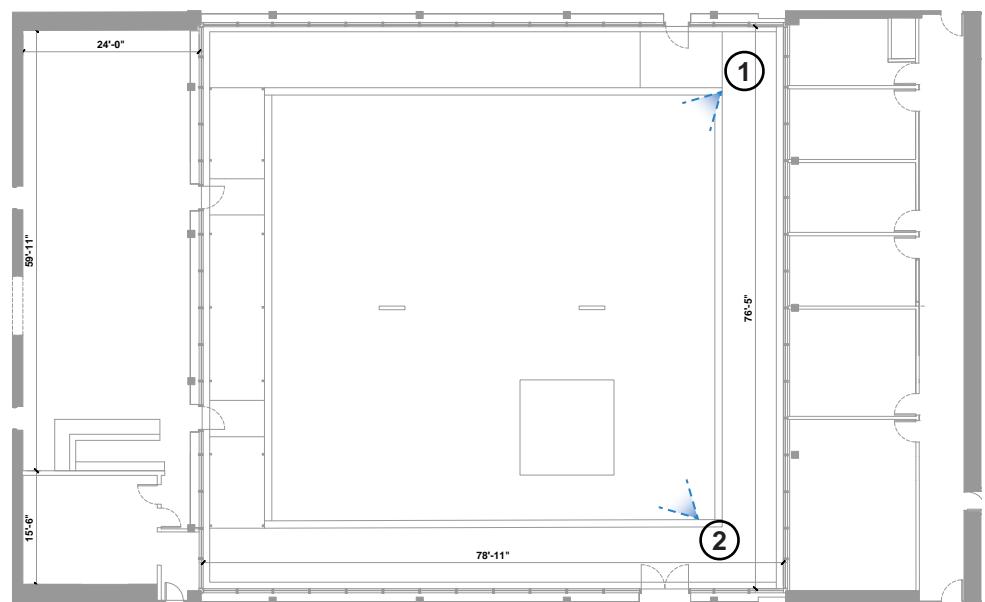
6. 1962 Courtyard looking North-West

1962 BUILDING COURTYARD

1962 Photography of SOM Building Courtyard



1. 1962 Building Courtyard Floor



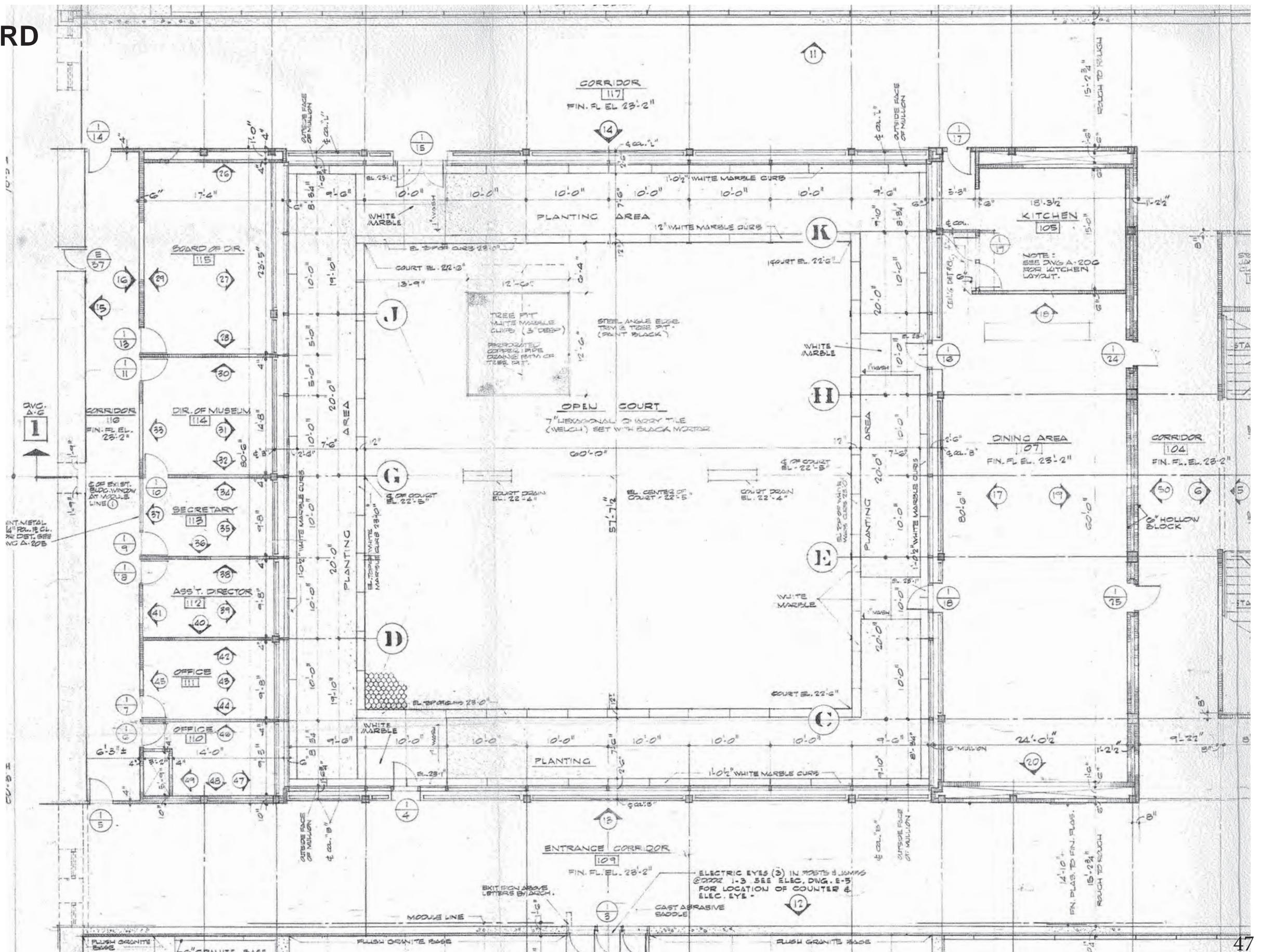
SOM BUILDING COURTYARD PHOTOGRAPHY KEY PLAN



2. 1962 Building Courtyard Floor

1962 BUILDING COURTYARD

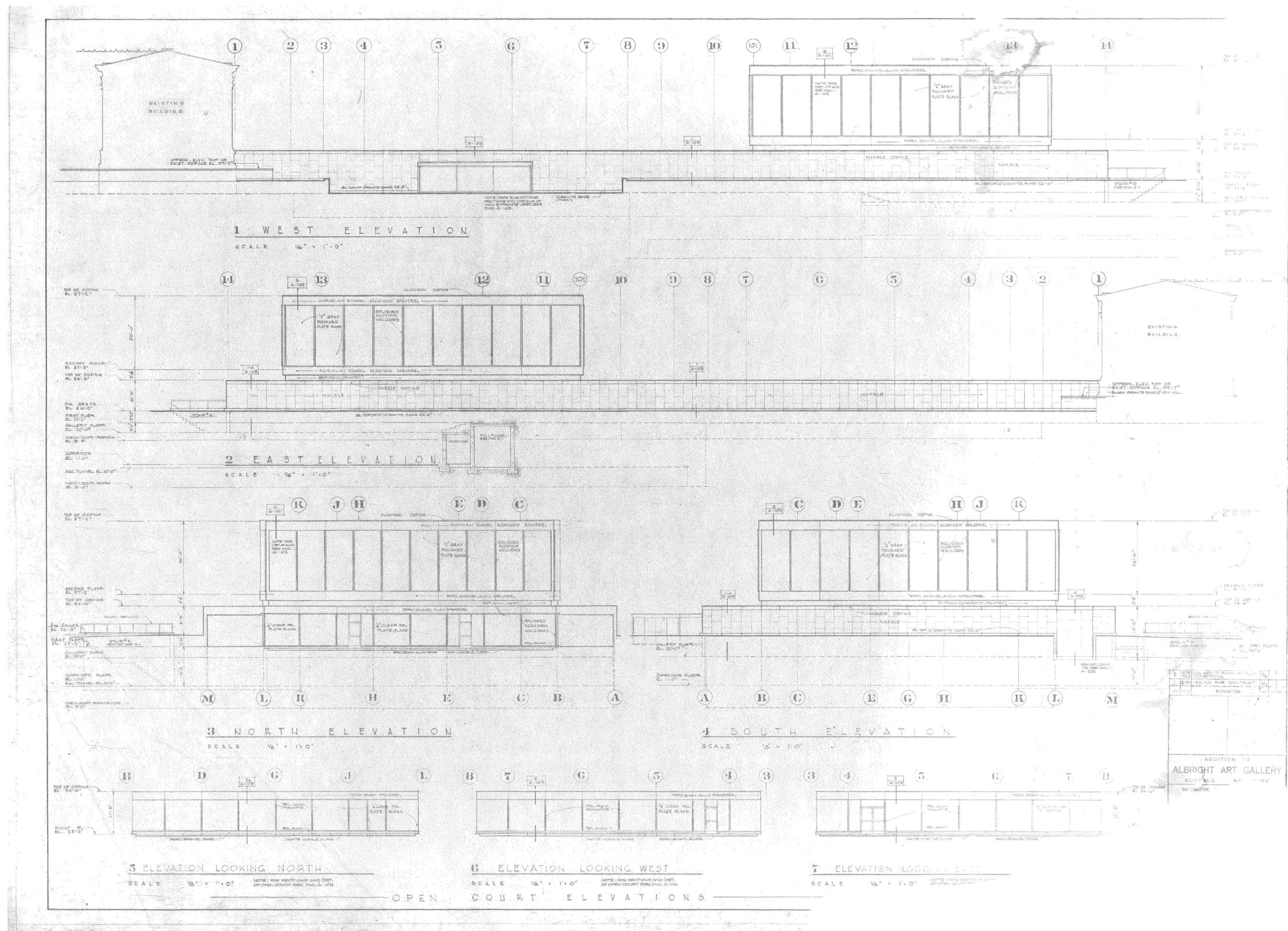
1962 SOM Building Courtyard Plan



1962 BUILDING COURTYARD

1962 Historic Documentation of SOM Curtainwall Elevations

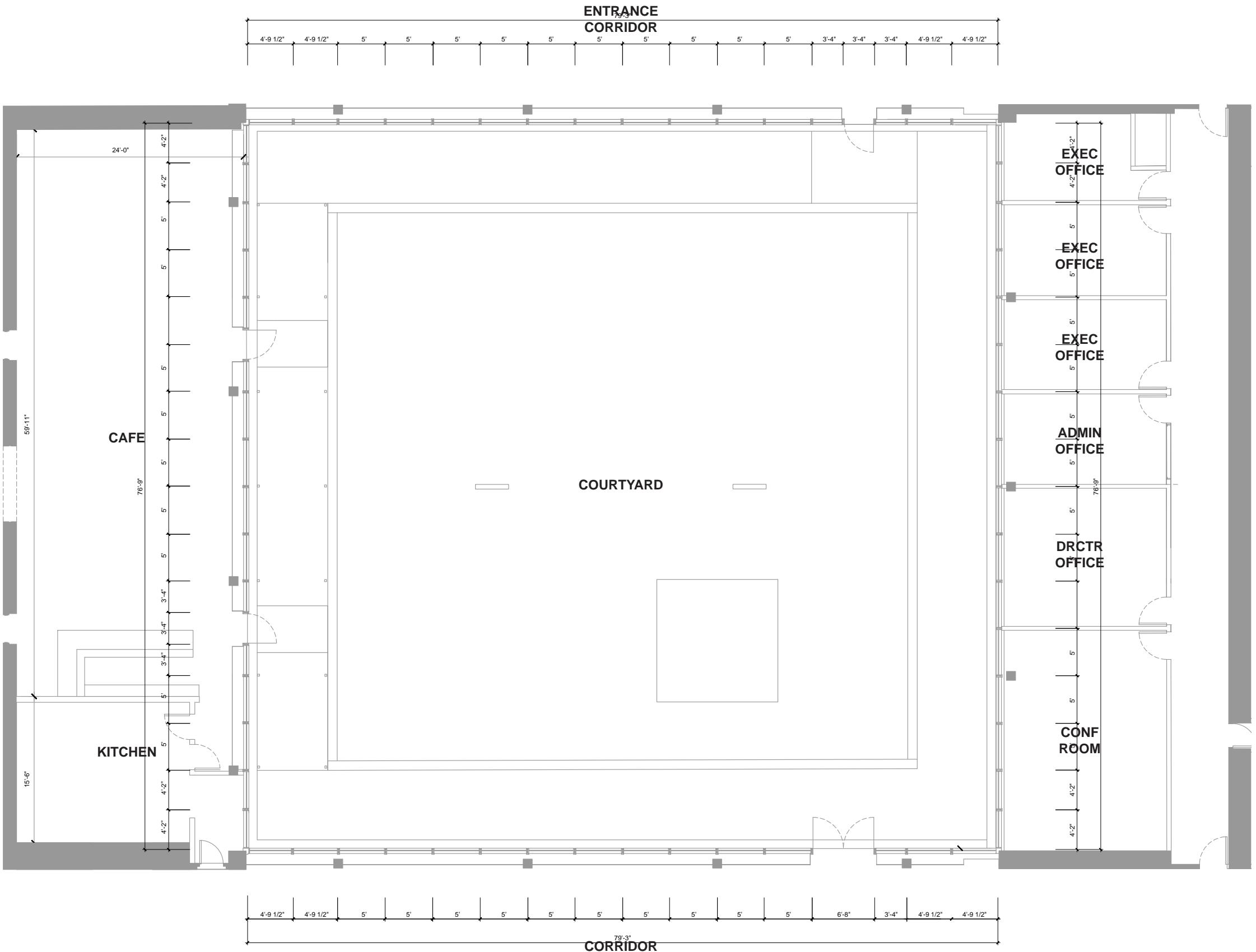
Historic drawings that guide the re-instatement of the original facade modulation that was modified in the late 1990's.



1962 BUILDING COURTYARD

1962 Existing Courtyard Plan

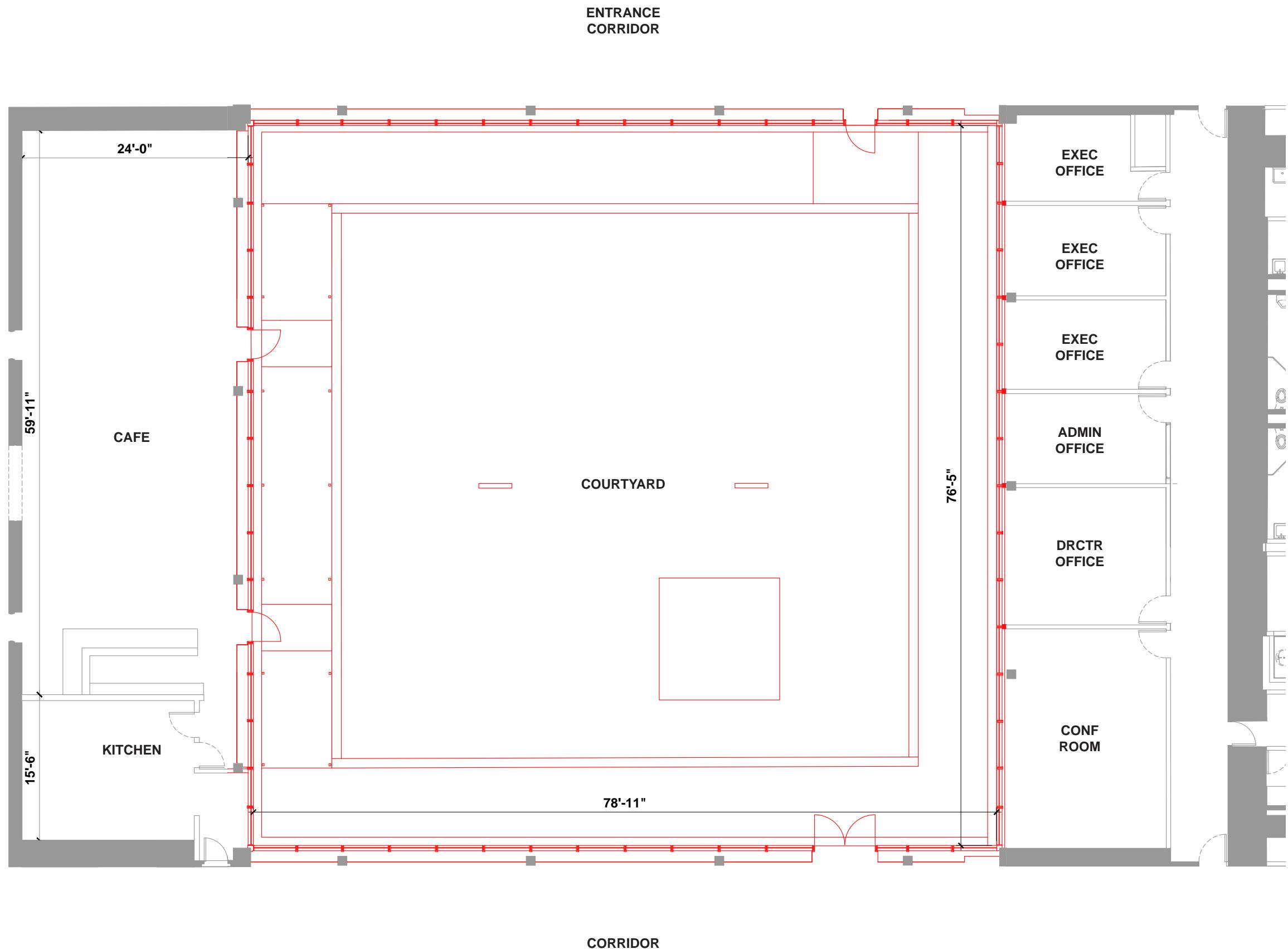
Plan showing existing conditions as was modified in the late 1990's.



1962 BUILDING COURTYARD

1962 Courtyard Removal Plan

Plan showing proposed removal of existing courtyard facade, glazing, and trellis.



1962 COURTYARD CURTAINWALL ALTERATION

1962 Courtyard Alteration

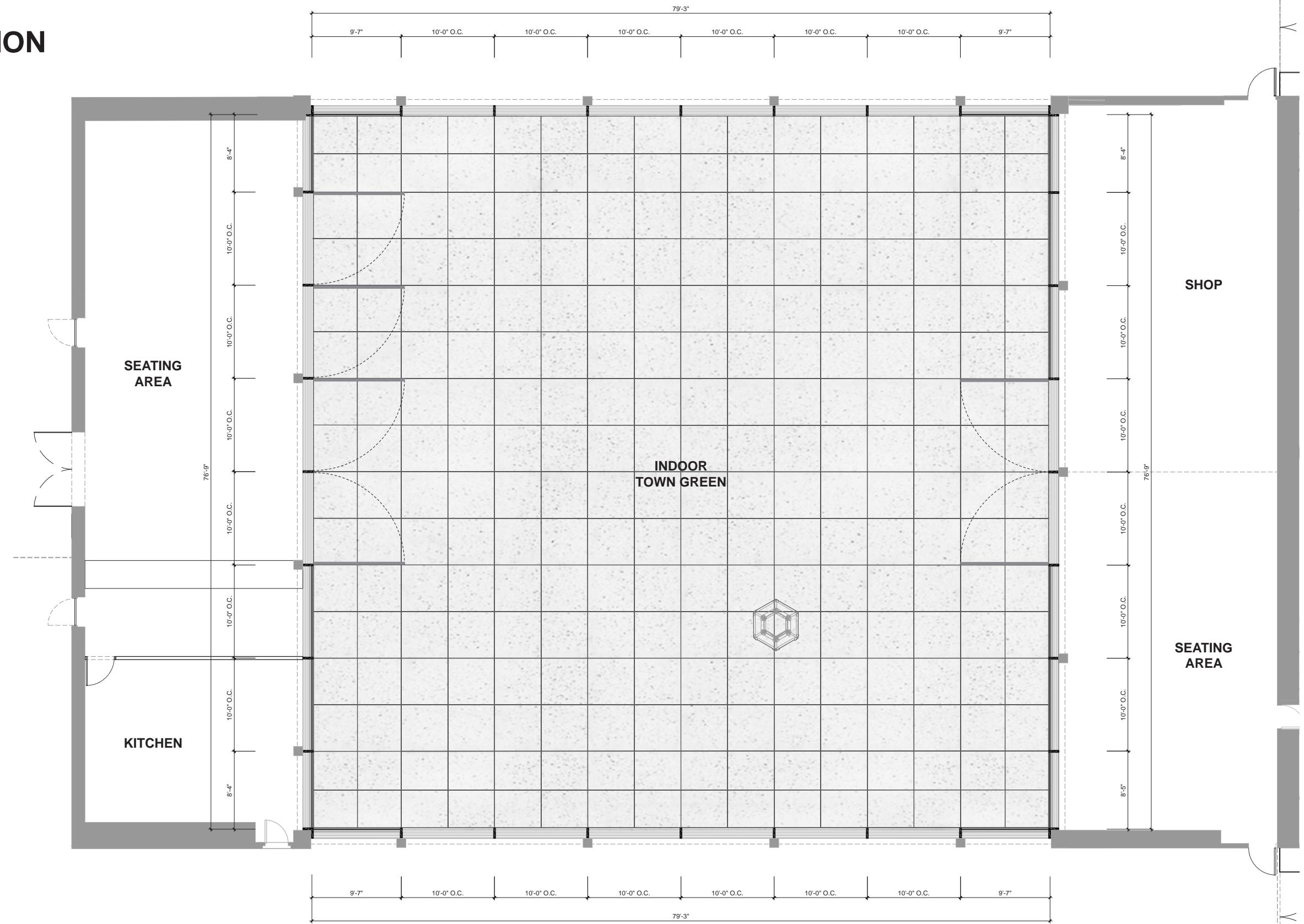
The covered courtyard will serve as the nucleus of the free public entry of the 1962 building. The covered courtyard by Studios Other Spaces, [SOS] will be provided with a storefront enclosure on the east and west axis that will allow for a degree of permeability to and from Delaware Park, the adjacent corridors and Elmwood Avenue. The covered courtyard is being conceived as a multi-functional event space that can seat 300 and is served by a catering kitchen. As the south side storefront panels will be operable, the courtyard can accommodate spill-out tables from the AK café to animate the space. The space will be programmed to accommodate a diversity of performances which might include: lectures / readings, music and dance, visual art residency, etc. As a large open space, the courtyard will be ideal for the display of large scale sculptures.



White Venetian Terrazzo



Stainless Steel Floor Grille



1962 COURTYARD ALTERATION

1962 Courtyard Alteration

The interiorization of the Sculpture Garden allows the re-thinking of the Courtyard curtainwall.

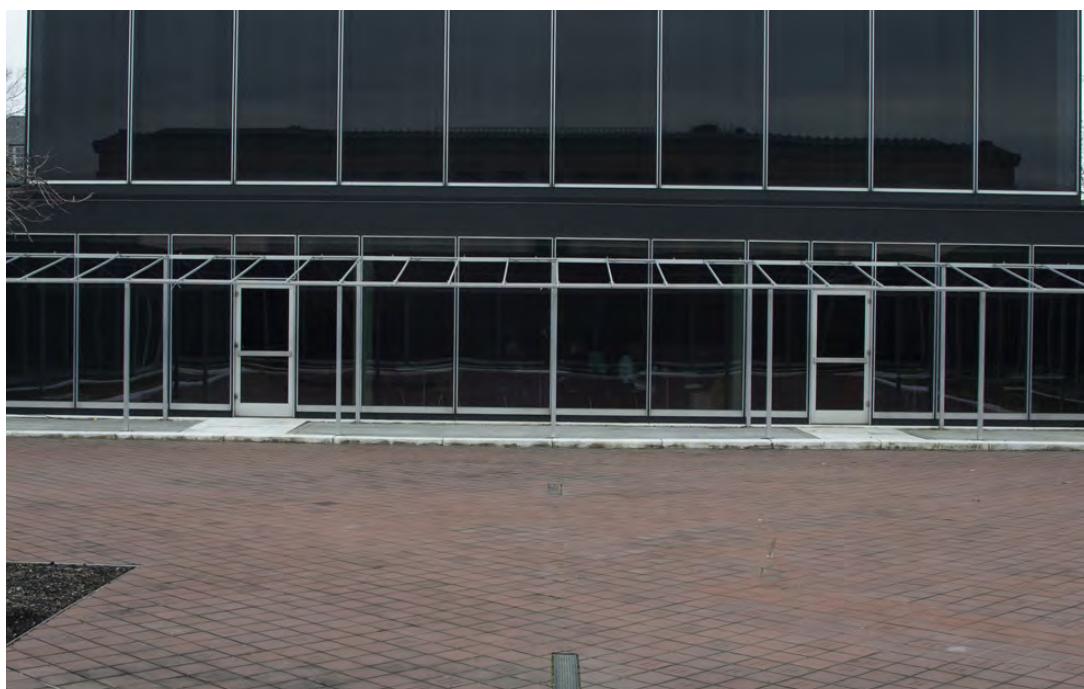
The existing exterior courtyard enclosure is being removed and replaced with a new interior storefront in keeping with the original SOM design. The two key items in this refurbishment are the return to the 10 foot module about the columns as well as the replacement of the grey tinted glass with clear glass. The original finishes will be respected and replicated. The fascia at the roof interface will be preserved. As much of the glazing will be retained as possible especially at the four corners.

The red courtyard floor tiles are not original and are being replaced with Venetian terrazzo composed of white marble chips set in a white cement matrix to recall the original white gravel. This floor system is being laid out in a 5 foot module about the mullions and columns with zinc divider strips.

EXISTING



1. 1962 Original Courtyard



2. 1962 Current Courtyard

PROPOSED



3. Proposed, Closed

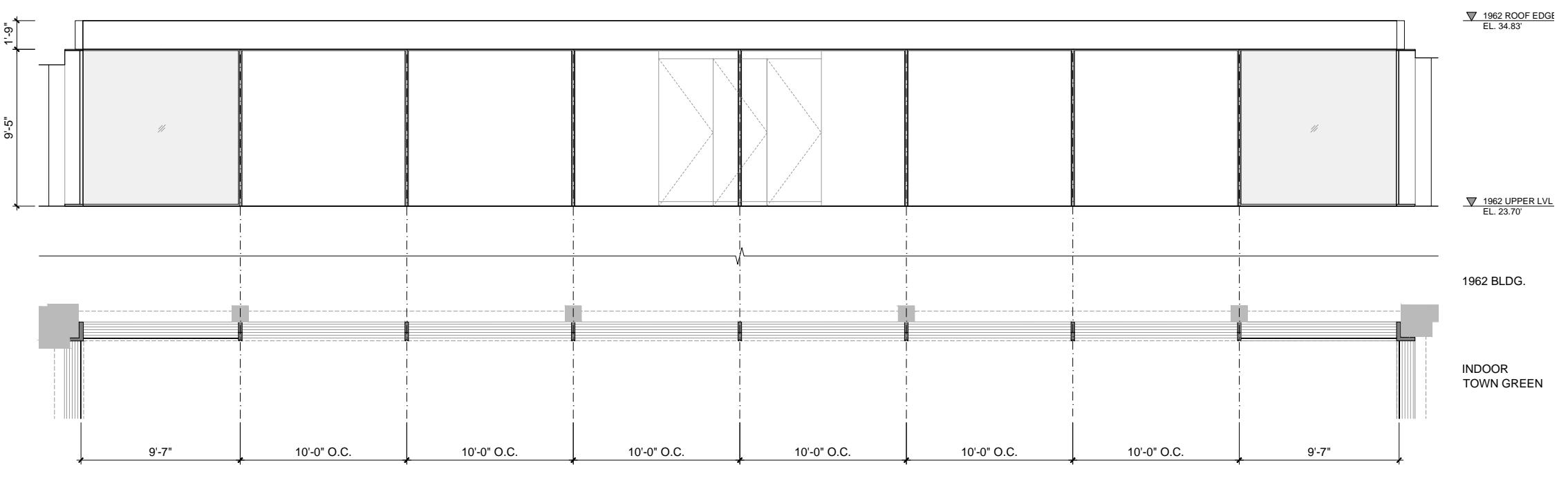


4. Proposed, Open (New Ramp Visible Beyond)

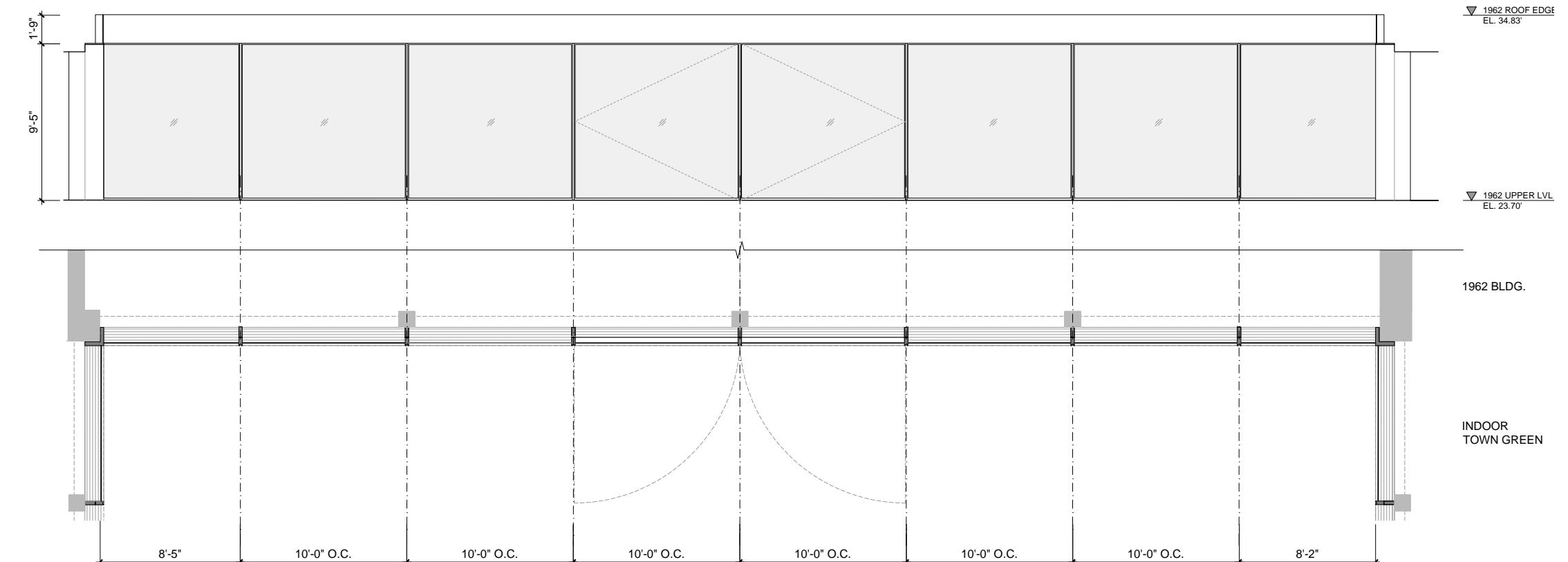
1962 COURTYARD CURTAINWALL ALTERATION

1962 Building Proposed Elevation

The north and south elevations will feature full 10 foot wide operable panels to allow for free and easy access [porosity] to the restaurant seating area, and shop with its' adjacent seating area. The operable sections shall be identical in section when closed as the fixed components. The east and west elevations will not be glazed except at the ten foot corner modules. This is being proposed so as to open the courtyard up to the adjacent corridors as well as to emphasize the east / west access through the site from Delaware park to Elmwood Avenue via the new east vestibule. The courtyard storefront system will be designed such that adjacent sill sections can be added in the future for reversibility.



02 EAST WALL PLAN & ELEVATION

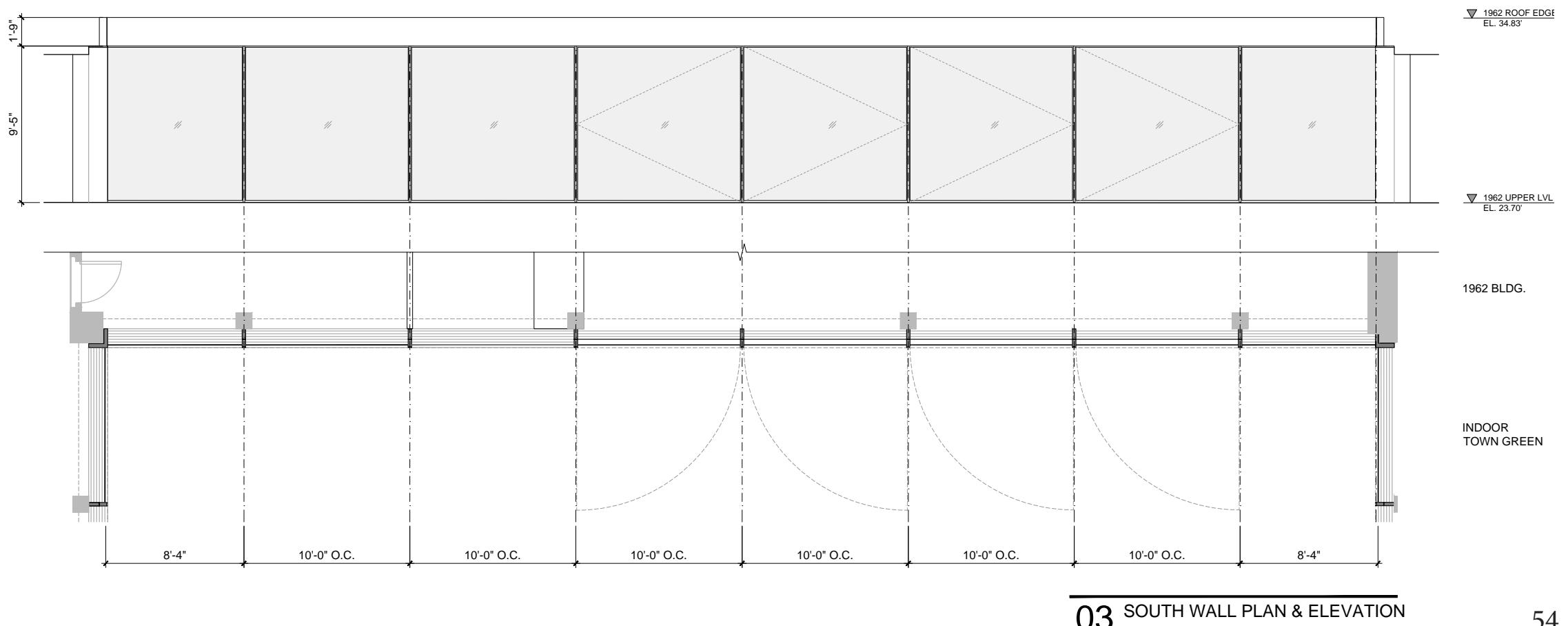
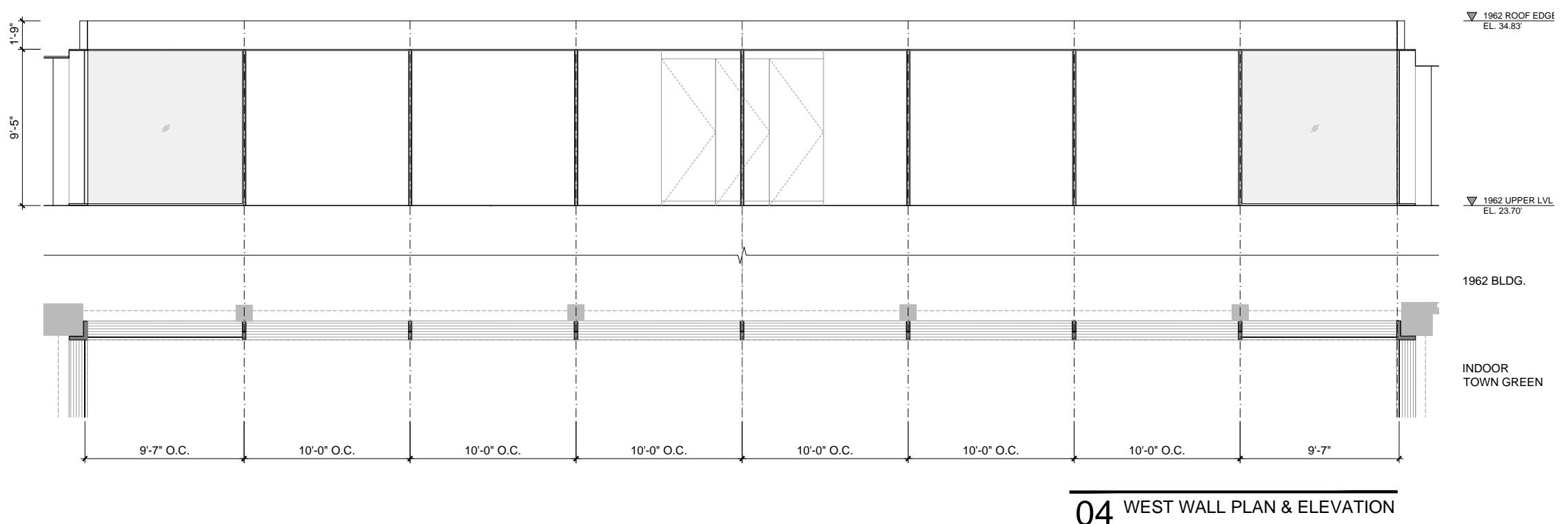


01 NORTH WALL PLAN & ELEVATION

1962 COURTYARD CURTAINWALL ALTERATION

1962 Building Proposed Elevation

The north and south elevations will feature full 10 foot wide operable panels to allow for free and easy access [porosity] to the restaurant seating area, and shop with its' adjacent seating area. The operable sections shall be identical in section when closed as the fixed components. The east and west elevations will not be glazed except at the ten foot corner modules. This is being proposed so as to open the courtyard up to the adjacent corridors as well as to emphasize the east / west access through the site from Delaware park to Elmwood Avenue via the new east vestibule. The courtyard storefront system will be designed such that adjacent sill sections can be added in the future for reversibility.



1962 COURTYARD CURTAINWALL ALTERATION

1962 Building Existing Historic Details

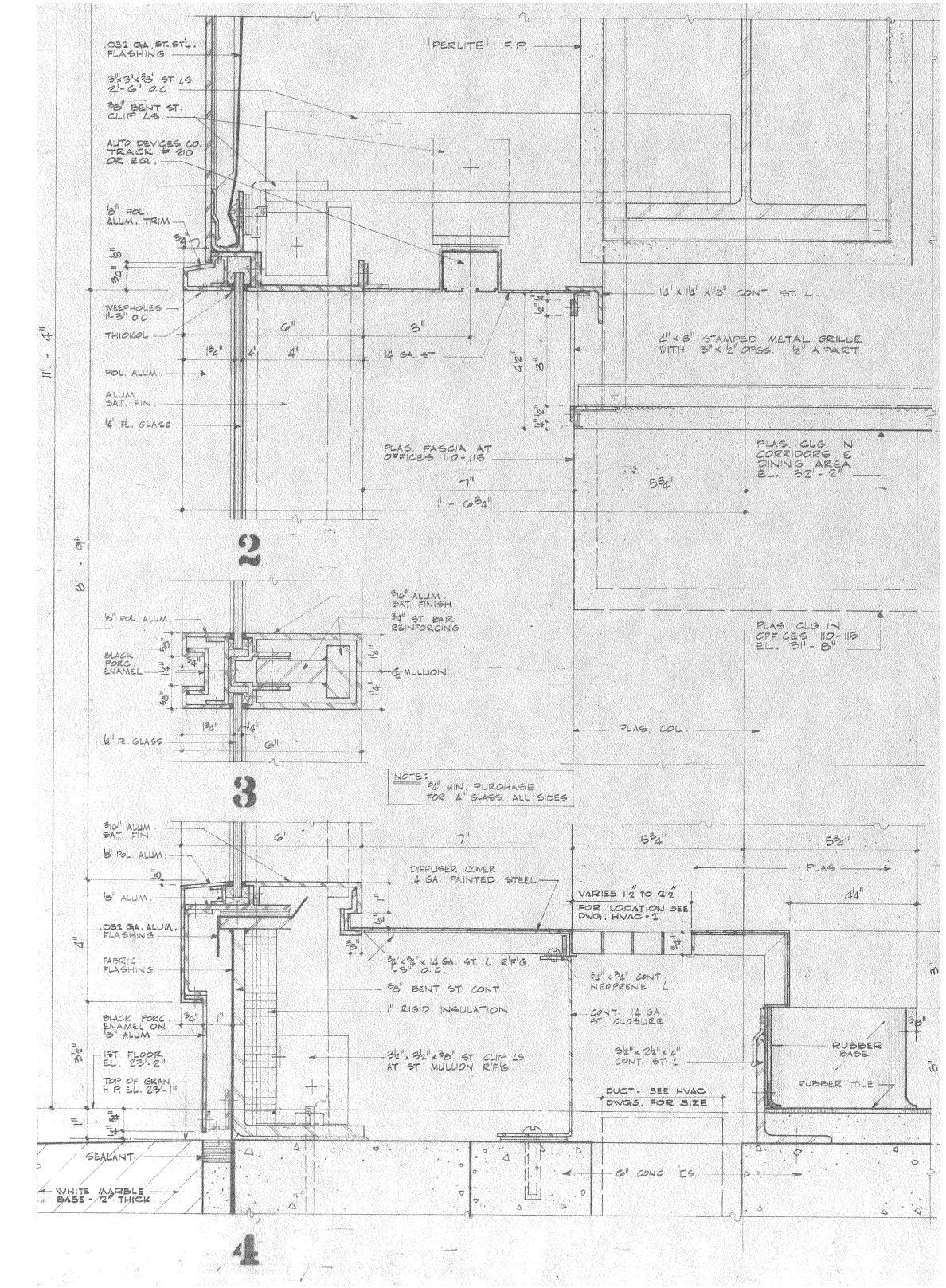


Architectural drawing showing a room layout with a central doorway. The drawing includes callouts for door frames, glass, and trim materials. Key elements labeled include:

- BLACK PORC. ENAMEL
- EXP. JOINTS
- POL. ALUM
- POL. ALUM. TRIM
- 14' RE. GLASS
- BLACK. PORC. ENAMEL
- ALUM. DOOR FRAMES SATIN FINISH
- ST. ST. PUSHES AND PULLS

Callouts are numbered 1 through 9, and the central doorway is labeled 3.

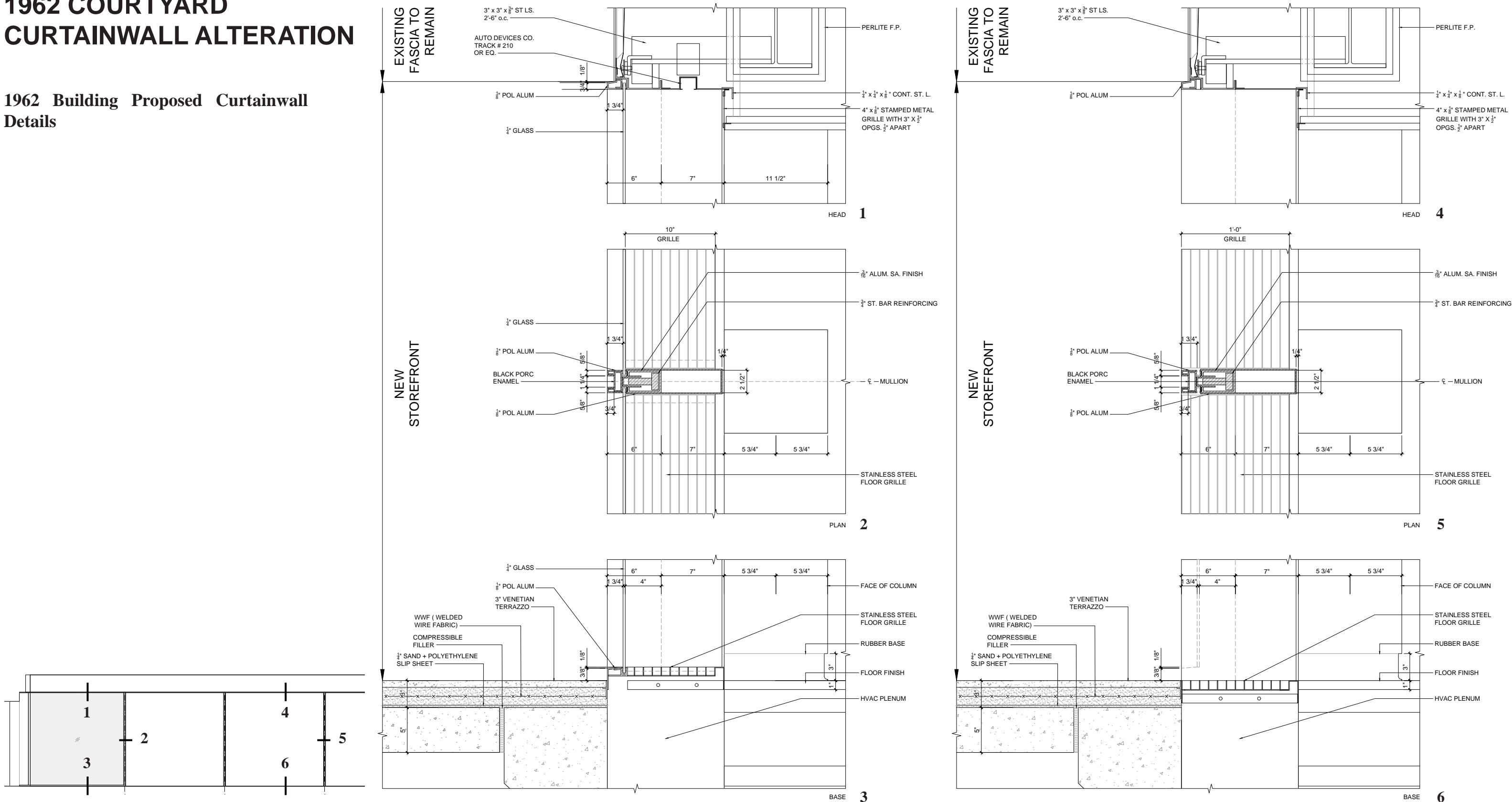
2. Original SOM Curtainwall



3. Original SOM Curtainwall Detail Section

1962 COURTYARD CURTAINWALL ALTERATION

1962 Building Proposed Curtainwall Details



1. Part East Elev. of Court - Typical Details

2. Detail Section at Glazed Condition

3. Detail Section at Porous Condition

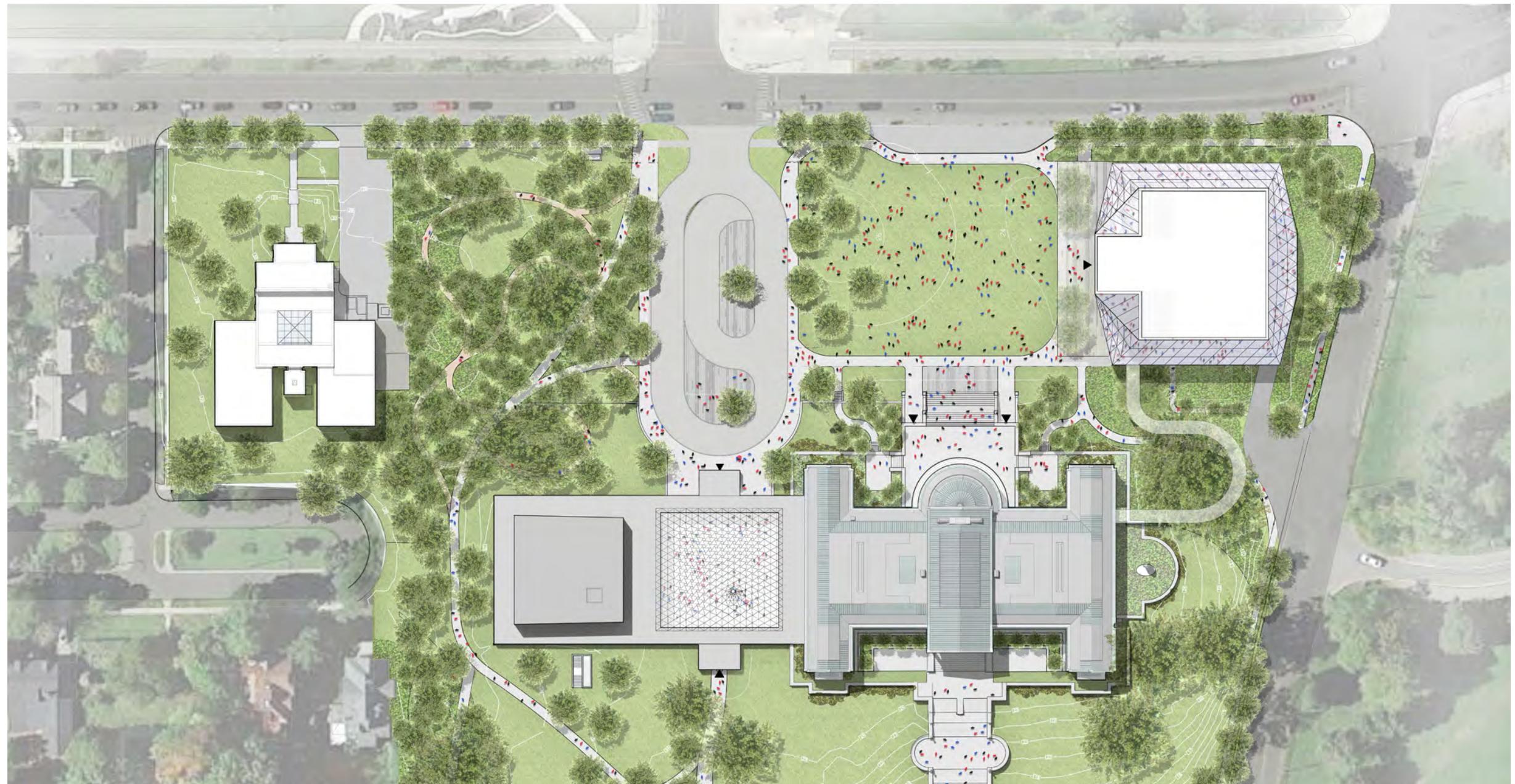
NORTH BUILDING MASSING AND SIZE

NORTH BUILDING MASSING

The Albright-Knox Art Museum is refurbishing and renovating the existing buildings and expanding with the construction of a New Building on its campus based on fundamental institutional needs. These are spatial, programmatic, operational, and facility needs based on the urgent requirement for more space, the museum's aging facilities, and a growing incompatibility between these facilities and the contemporary national standards and best practices that are a criterion for the accreditation of American museums. The New Building will fulfill these needs in part by providing additional new flexible exhibition space with state-of-the-art lighting, security and movable gallery walls, consolidated executive offices, a new art loading dock and entry hall.

OMA's aspiration for the North Building is to make the footprint as compact as possible and limit the height as much as possible in respect to the neighboring historical buildings, while maintaining the AK's needs for maximum clear heights of the galleries.

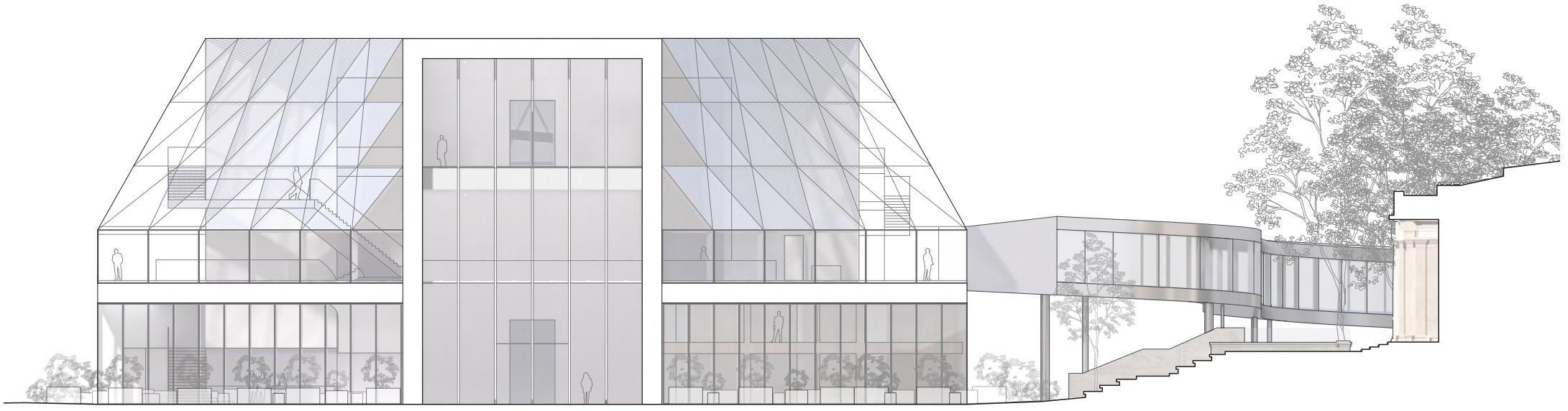
The North Building is placed right up to the property line on the corner of Elmwood Avenue and Iroquois Drive to allow for the greatest amount of buffer space from the historic buildings.



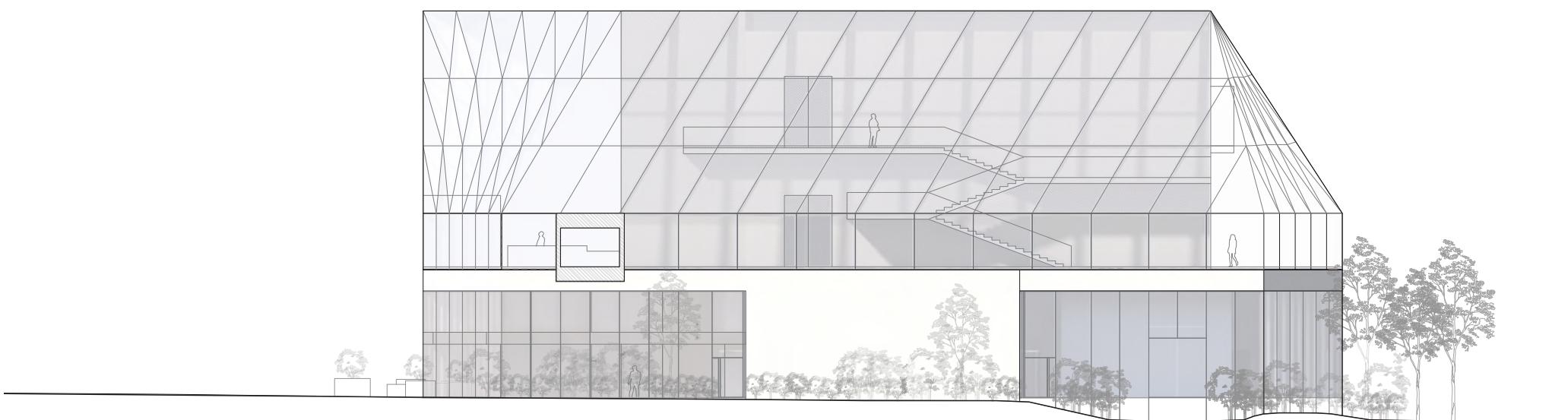
Proposed Campus Site Plan

NORTH BUILDING ELEVATIONS

While the existing buildings are opaque in material, the New Building is lighter with a more transparent façade that displays the activity and artwork within the museum, reflecting the constantly-changing character of the building.



1. North Building - South Elevation

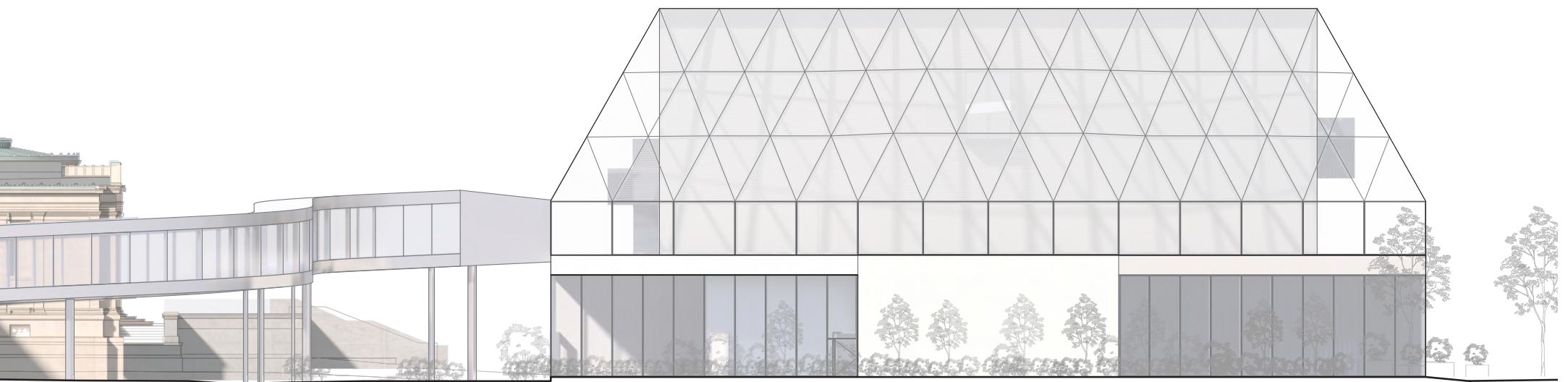


2. North Building - East Elevation

NORTH BUILDING ELEVATIONS

Similar to the Neoclassical building, the elevation for the North Building is separated in a tripartite division with the gallery volumes at the base, the sculpture terrace at mid-point, and a light veil on top, giving the overall composition a more human scale that references classical divisions in architecture history.

The mullion spacing and the architectural details of the North Building recall the colonnade and the compositional rhythm of the 1905 and 1962 Buildings.



1. North Building - North Elevation



2. North Building - West Elevation

NORTH BUILDING MASSING



Proposed Campus from Parking Ramp

NORTH BUILDING MASSING



Proposed North Building from the Restored 1905 Stair

NORTH BUILDING MASSING



Proposed North Building from Elmwood Avenue

NORTH BUILDING MASSING



Proposed North Building from Iroquois Drive

VISUAL IMPACT ANALYSIS

View 1

View from the south
on Elmwood Avenue



VISUAL IMPACT ANALYSIS

View 2

View from the west
from Buffalo State University
(Rockwell Hall)



VISUAL IMPACT ANALYSIS

View 3

View from the west
on Elmwood Avenue
looking at 1905 facade



VISUAL IMPACT ANALYSIS

View 4

View from the intersection
of Nottingham Terrace
and Elmwood Avenue



VISUAL IMPACT ANALYSIS

View 5

View from the parking lot entrance to the Buffalo History Museum



VISUAL IMPACT ANALYSIS

View 6

View from the facade
of the Buffalo History Museum



VISUAL IMPACT ANALYSIS

View 7

View from the rear portico
of the Buffalo History Museum



VISUAL IMPACT ANALYSIS

View 8

View from the Lincoln Parkway
bridge over Scajaquada Expressway



VISUAL IMPACT ANALYSIS

View 9

View from the east
on Lincoln Parkway
near base of 1905 staircase



VISUAL IMPACT ANALYSIS

View 10

View from bottom level
of the Marcy Casino
(looking from the east)



VISUAL IMPACT ANALYSIS

View 11

View from across Mirror Lake



VISUAL IMPACT ANALYSIS

View 12

View from Lincoln Parkway from the south near the main entrance to the Marcy Casino and the Delaware Rose Garden



VISUAL IMPACT ANALYSIS

View 13

View from the north of Hoyt Lake
looking southeast



VISUAL IMPACT ANALYSIS

View 14

View from north of Scajaquada
Expressway / Mirror Lake



VISUAL IMPACT ANALYSIS

View 15

View from intersection
of Lincoln Parkway
and Iroquois Drive looking west



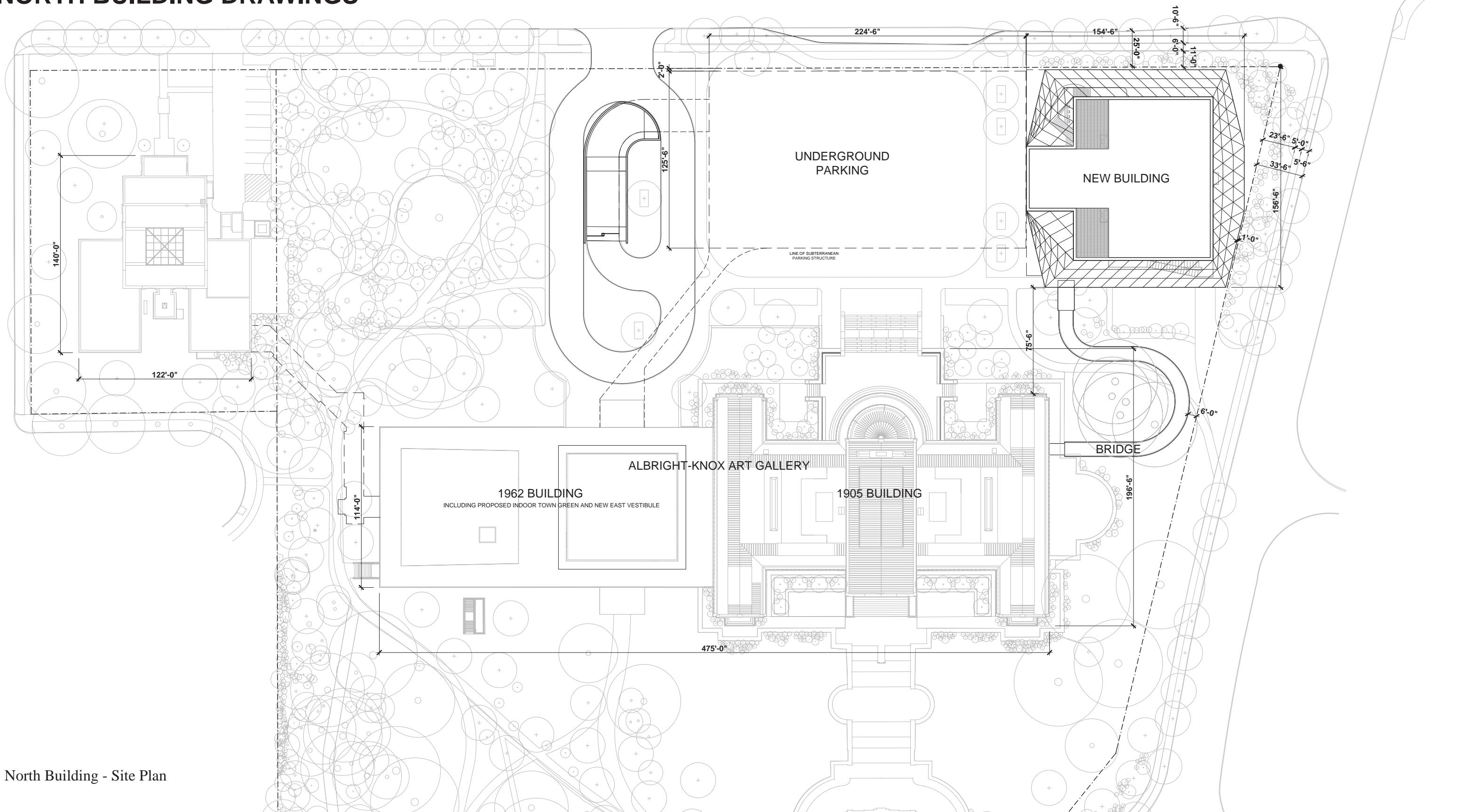
VISUAL IMPACT ANALYSIS

View 16

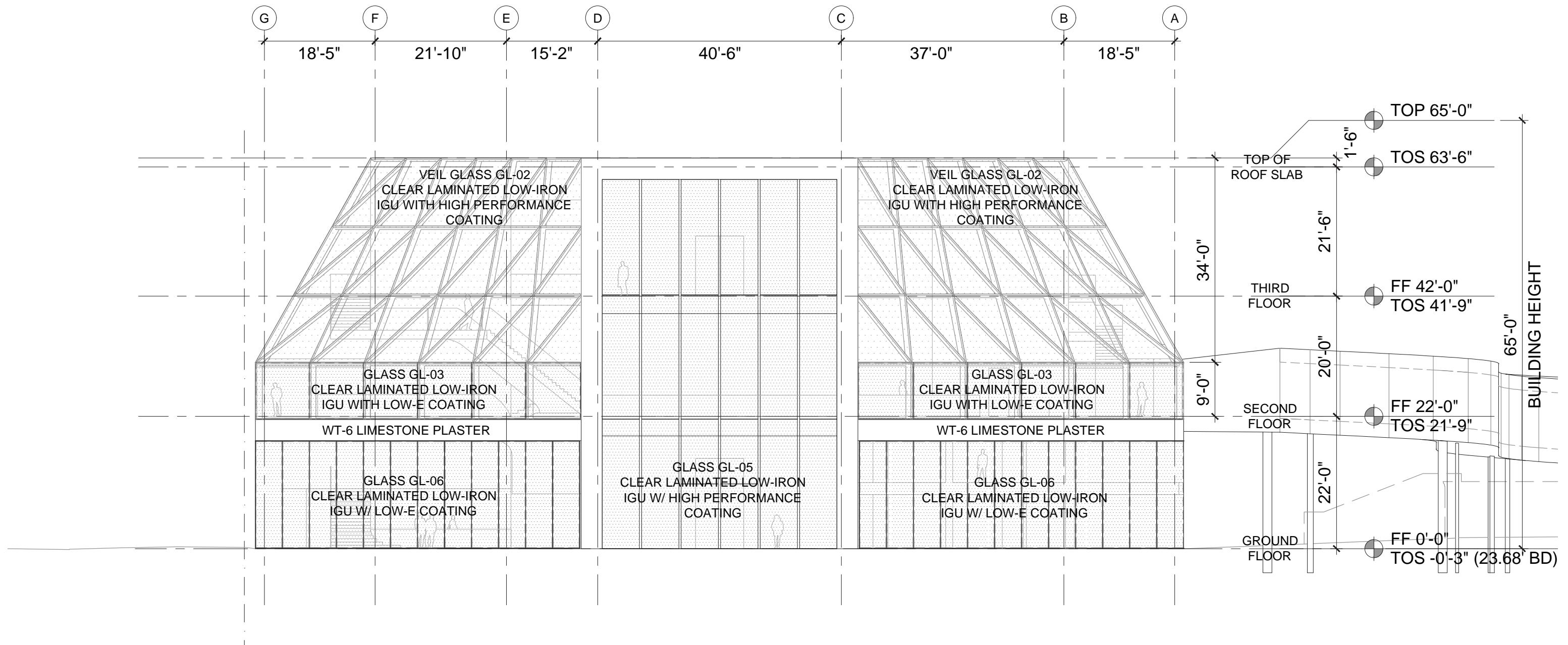
View from north
on Scajaquada Expressway
after crossing Lincoln Parkway



NORTH BUILDING DRAWINGS

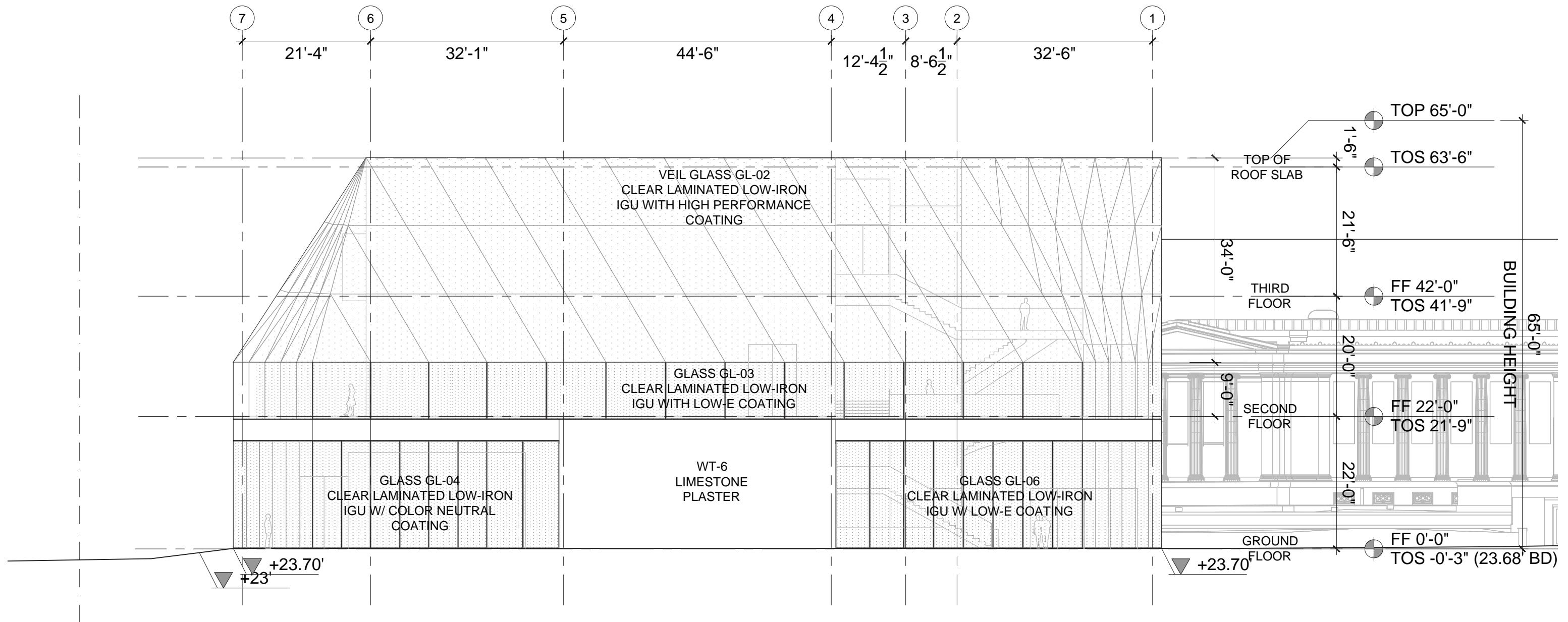


NORTH BUILDING DRAWINGS



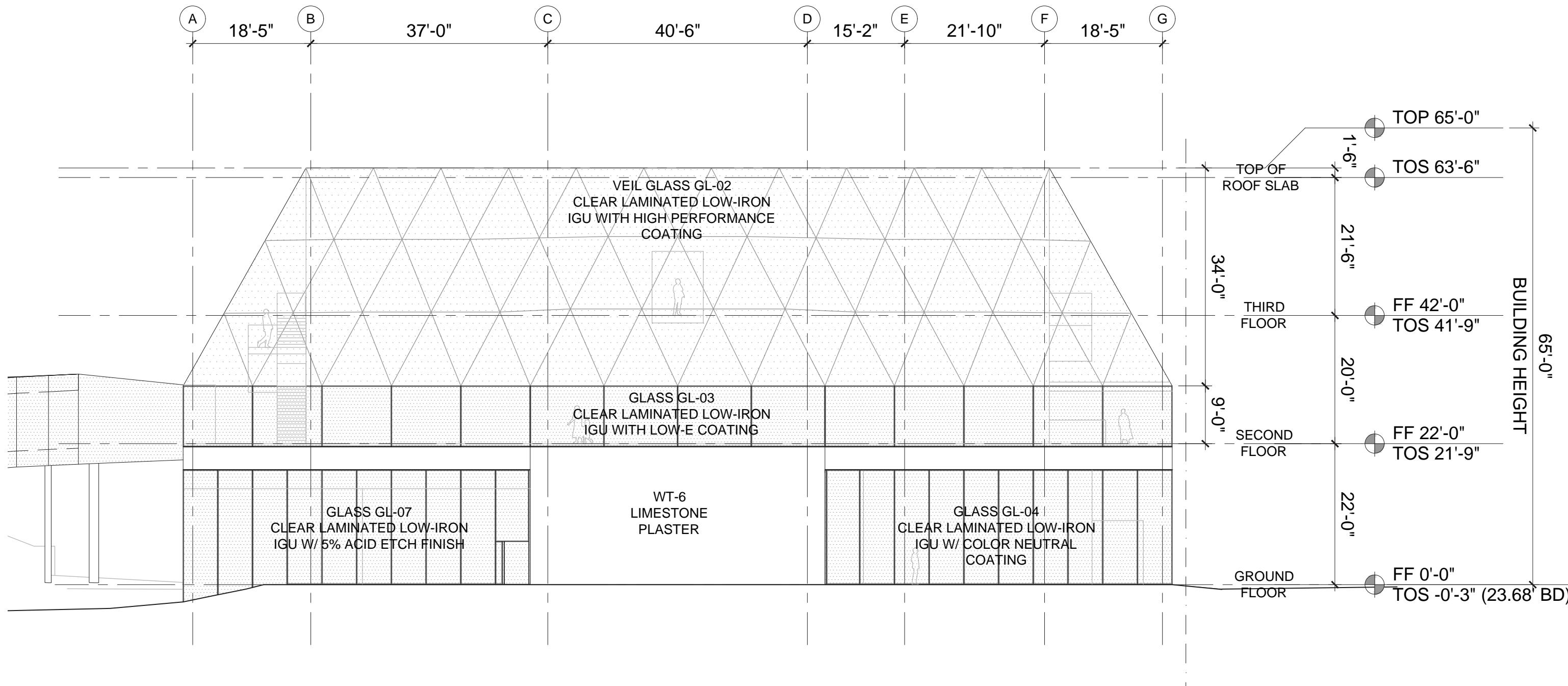
North Building - South Elevation

NORTH BUILDING DRAWINGS



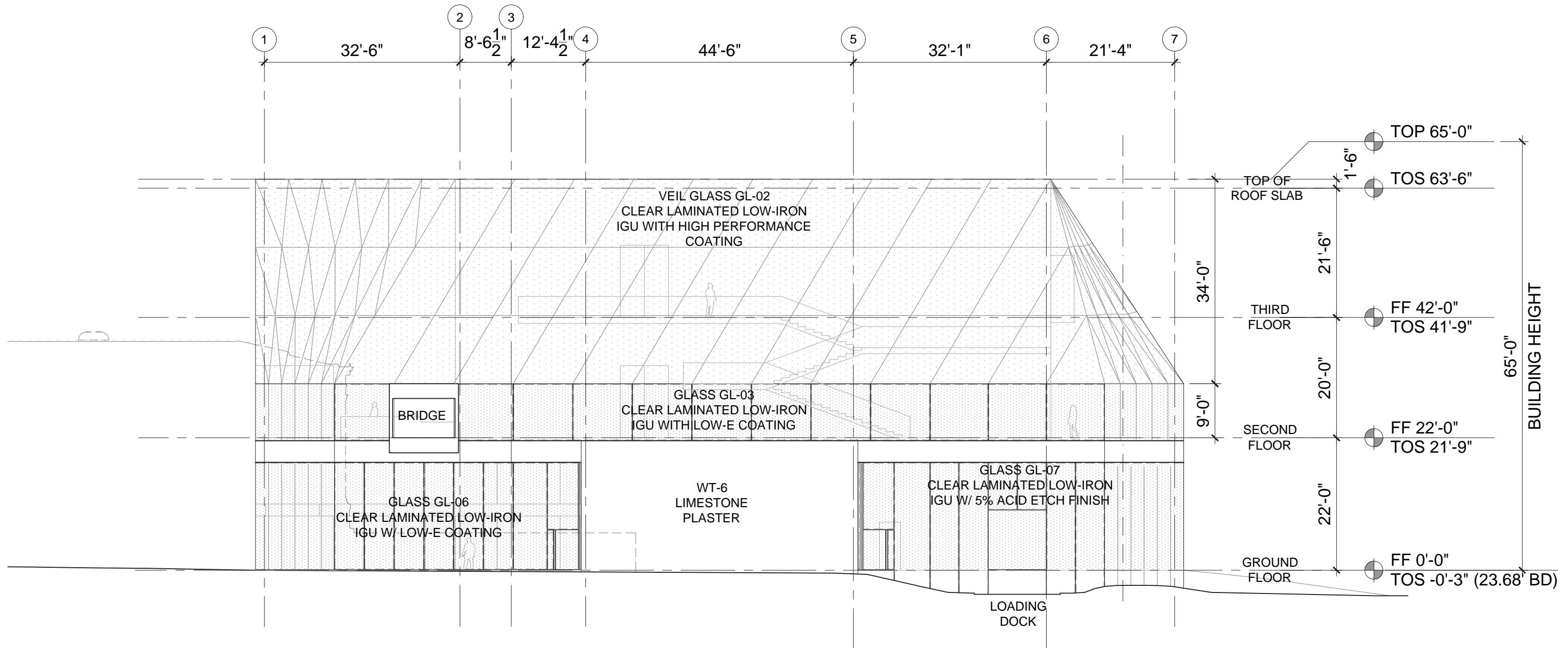
North Building - West Elevation

NORTH BUILDING DRAWINGS



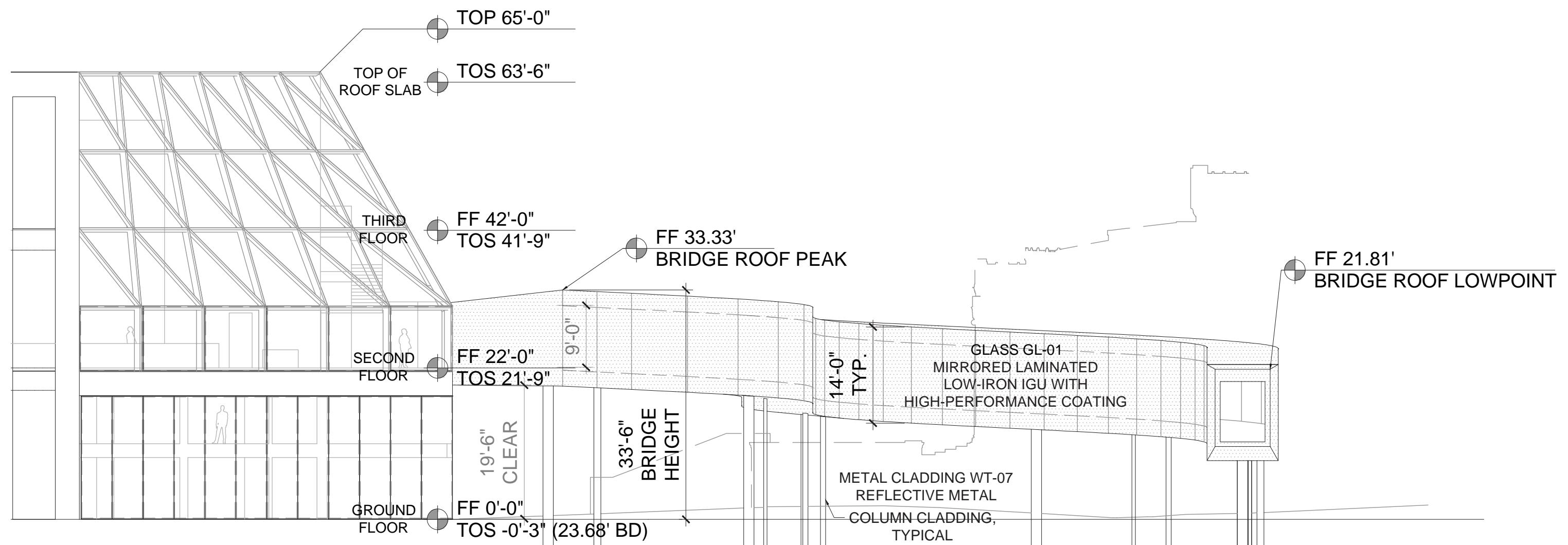
North Building - North Elevation

NORTH BUILDING DRAWINGS



North Building - East Elevation

NORTH BUILDING DRAWINGS



South Bridge Elevation

Albright Knox Gallery

Buffalo Planning Board Submission

April, 2019

Common sky [WT]

**Studio
Other
Spaces**

**PROPOSAL
SECTION**

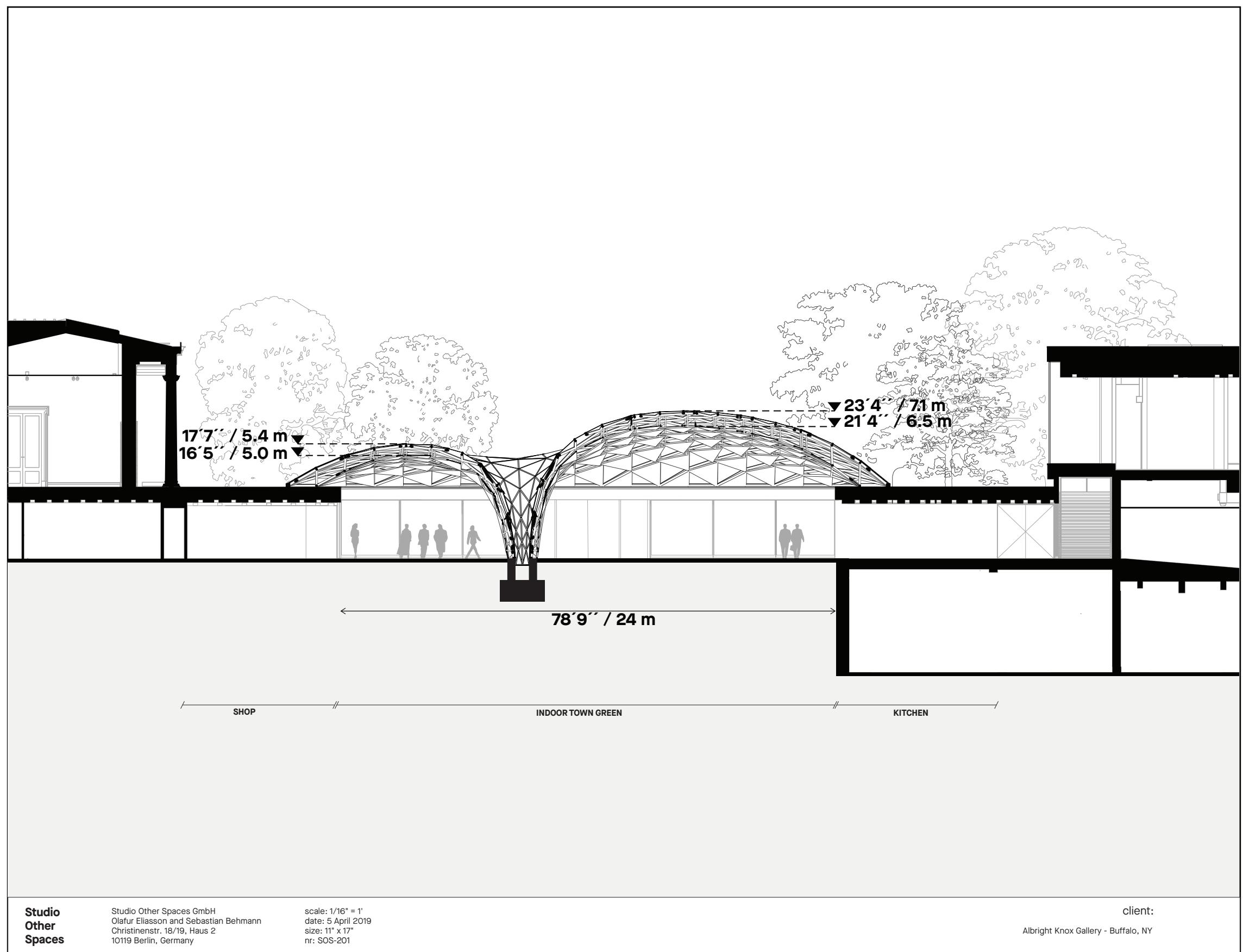
Section N-S

(DESCRIPTION)

Section showing the spatial relationship between the 1904 building, the 1962 addition and the proposed renovation of the courtyard.

(NARRATIVE)

Since new functions will surround the plaza, the artwork *Common sky* is conceived as an envelop to further dialogue and exchange.



**PROPOSAL
SECTION**

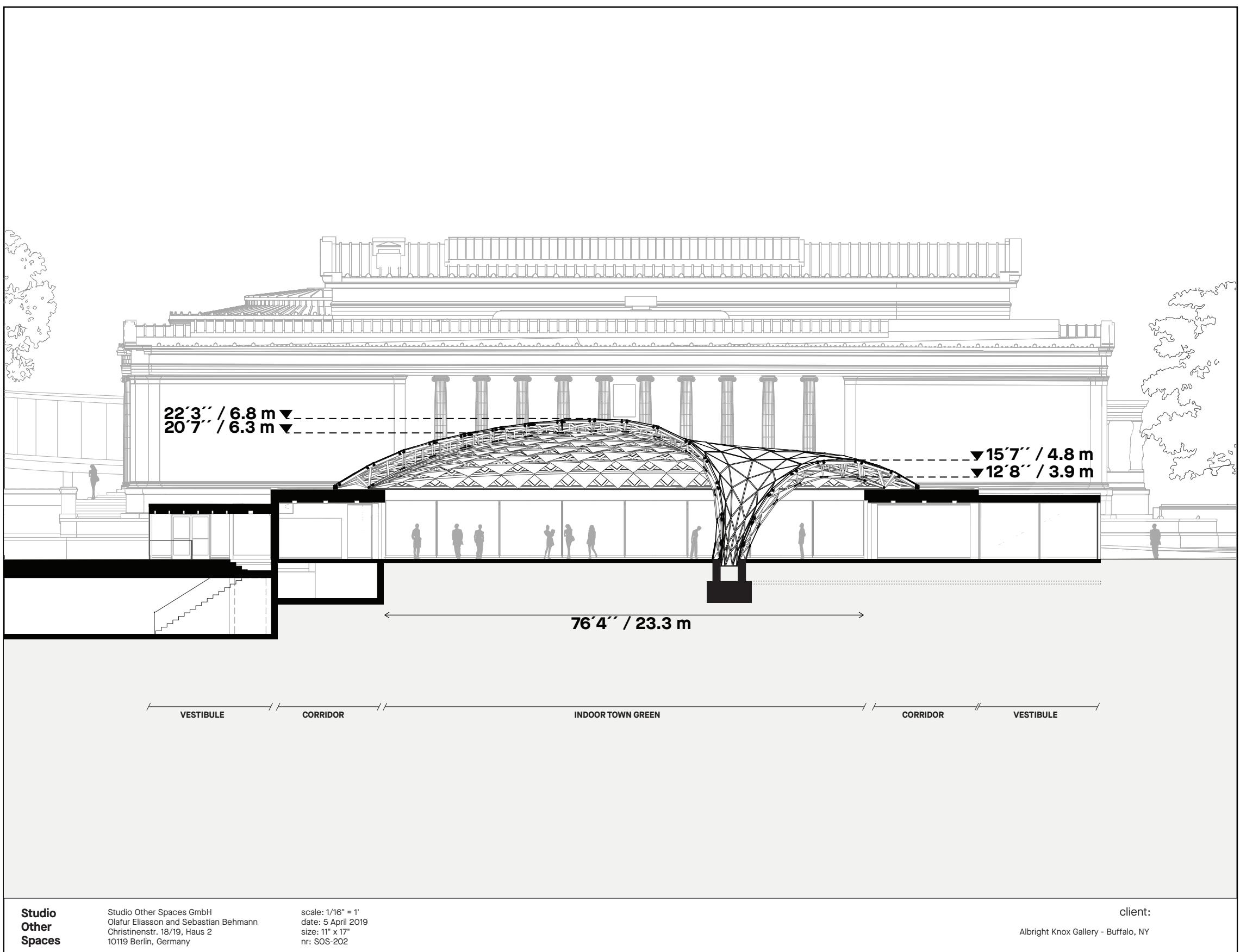
Section E-W

(DESCRIPTION)

Section showing the proposed spatial continuity between the entrance towards the city, the new inner plaza and the park.

(NARRATIVE)

The roof's varying heights define a generous livability of the space while producing different degrees of intimacy.

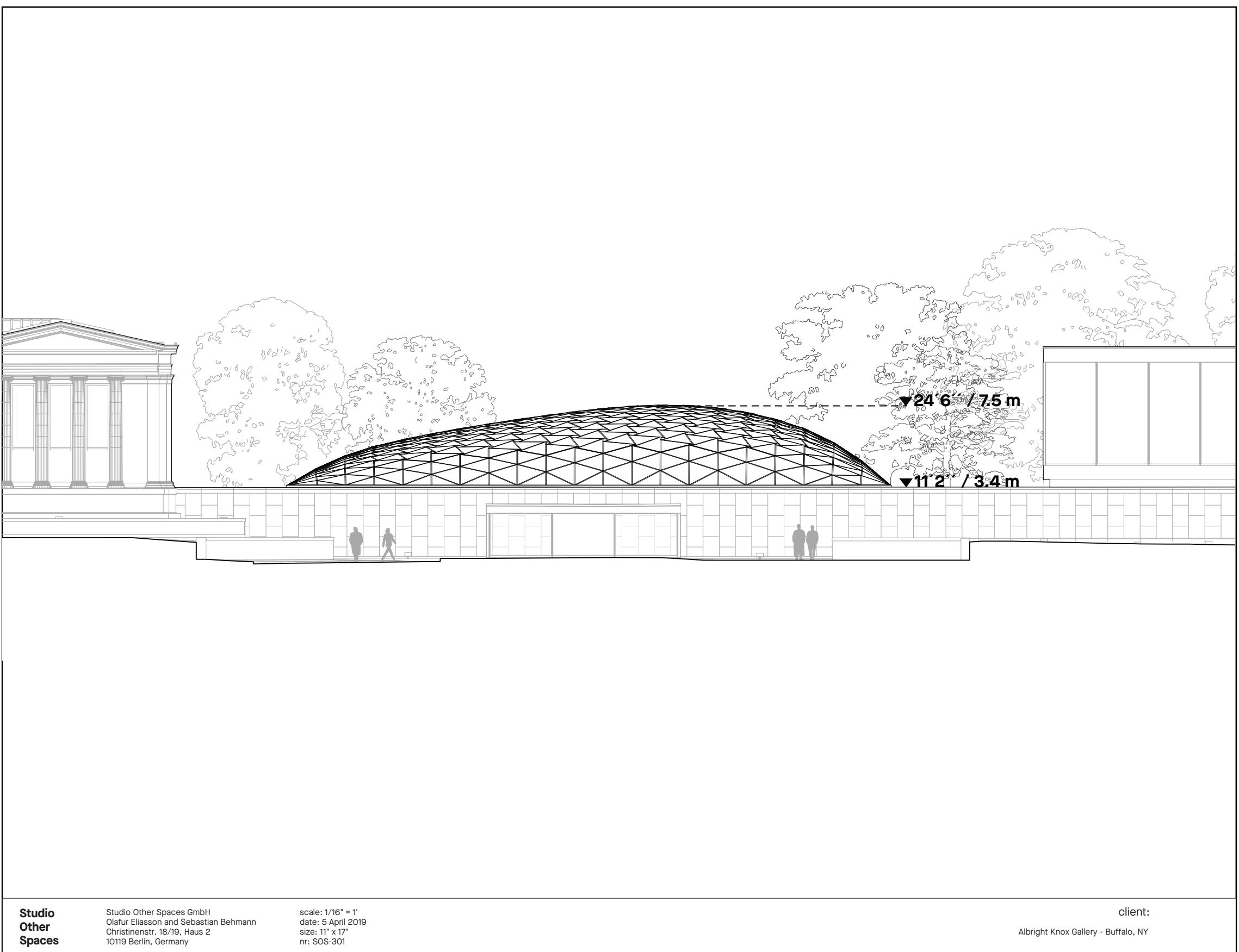


**PROPOSAL
ELEVATION****Elevation West****(DESCRIPTION)**

Elevation drawing of the western façade of the building.

(NARRATIVE)

Gentle curves, evocative of snow drift or natural weather phenomena, define the shape of the artwork without conflicting with the building's existing languages.



**PROPOSAL
ELEVATION**

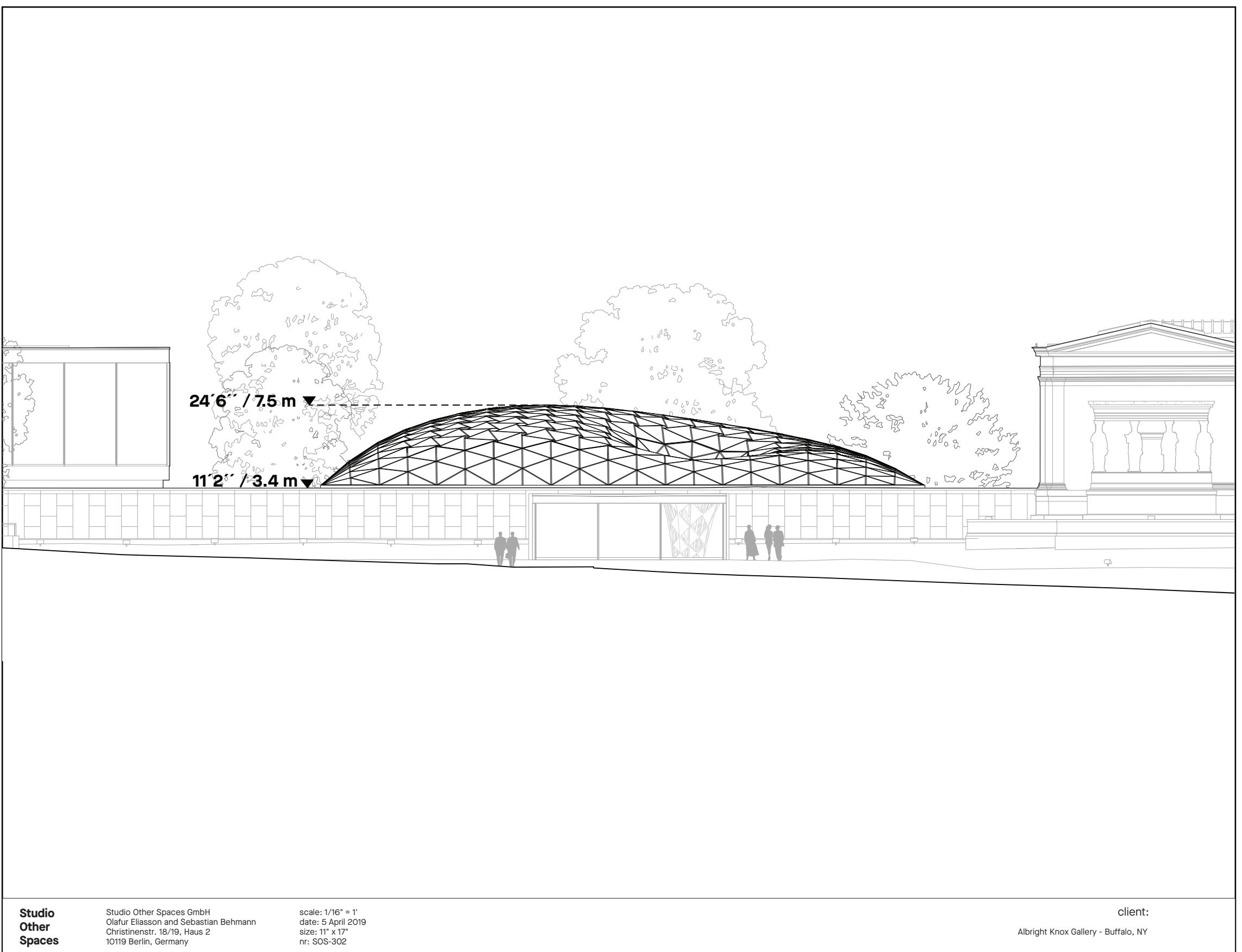
Elevation East

(DESCRIPTION)

Elevation drawing of the eastern façade of the building.

(NARRATIVE)

Gentle curves, evocative of snow drift or natural weather phenomena, define the shape of the artwork without conflicting with the building's existing languages.



**PROPOSAL
OUTER VIEW****Perspective from West****(DESCRIPTION)**

Rendered collage showing the western entrance to the new square, from Elmwood Ave.

(NARRATIVE)

The artwork's contemporary silhouette will renovate the urban side of the Gallery, encouraging the entry to the new square.



**PROPOSAL
OUTER VIEW****Perspective from East****(DESCRIPTION)**

Rendererd collage showing the eastern entrance to the new square, from Delaware Park.

(NARRATIVE)

The relatively low, transparent roof will be barely visible from the park, reflecting and blending in the colors of the nature.



ENGINEERING CONCEPT PHASE STRATEGY

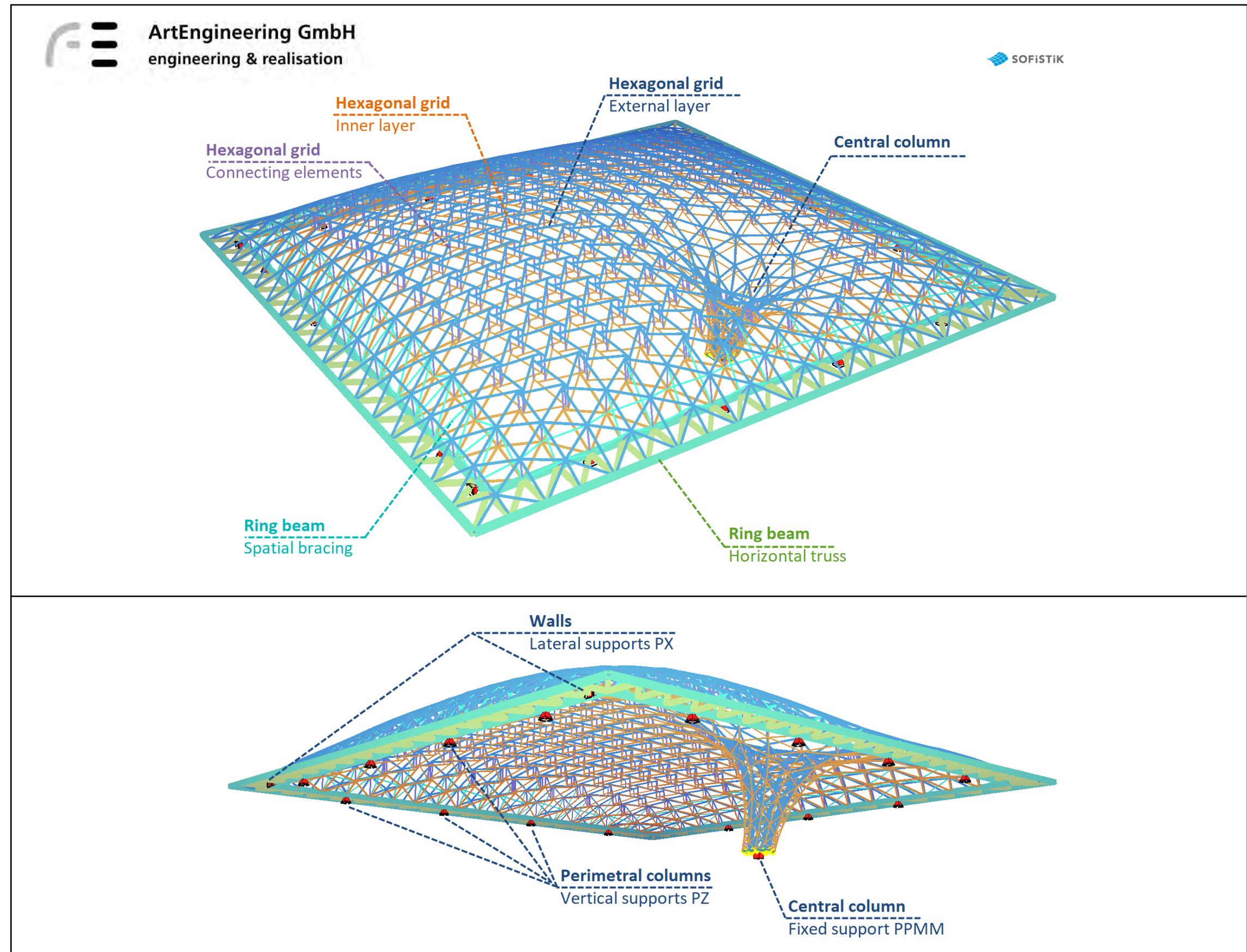
System overview

(DESCRIPTION)

Three-dimensional visualization of the roof structural system highlighting its main components and its connections to the supports.

(NARRATIVE)

Common sky is composed by a double layered grid structure which, raising from the ground, organically embraces the whole space.



**ENGINEERING
CONCEPT PHASE STRATEGY****Supports scheme****(DESCRIPTION)**

Three-dimensional schematic description of the different supports involved.

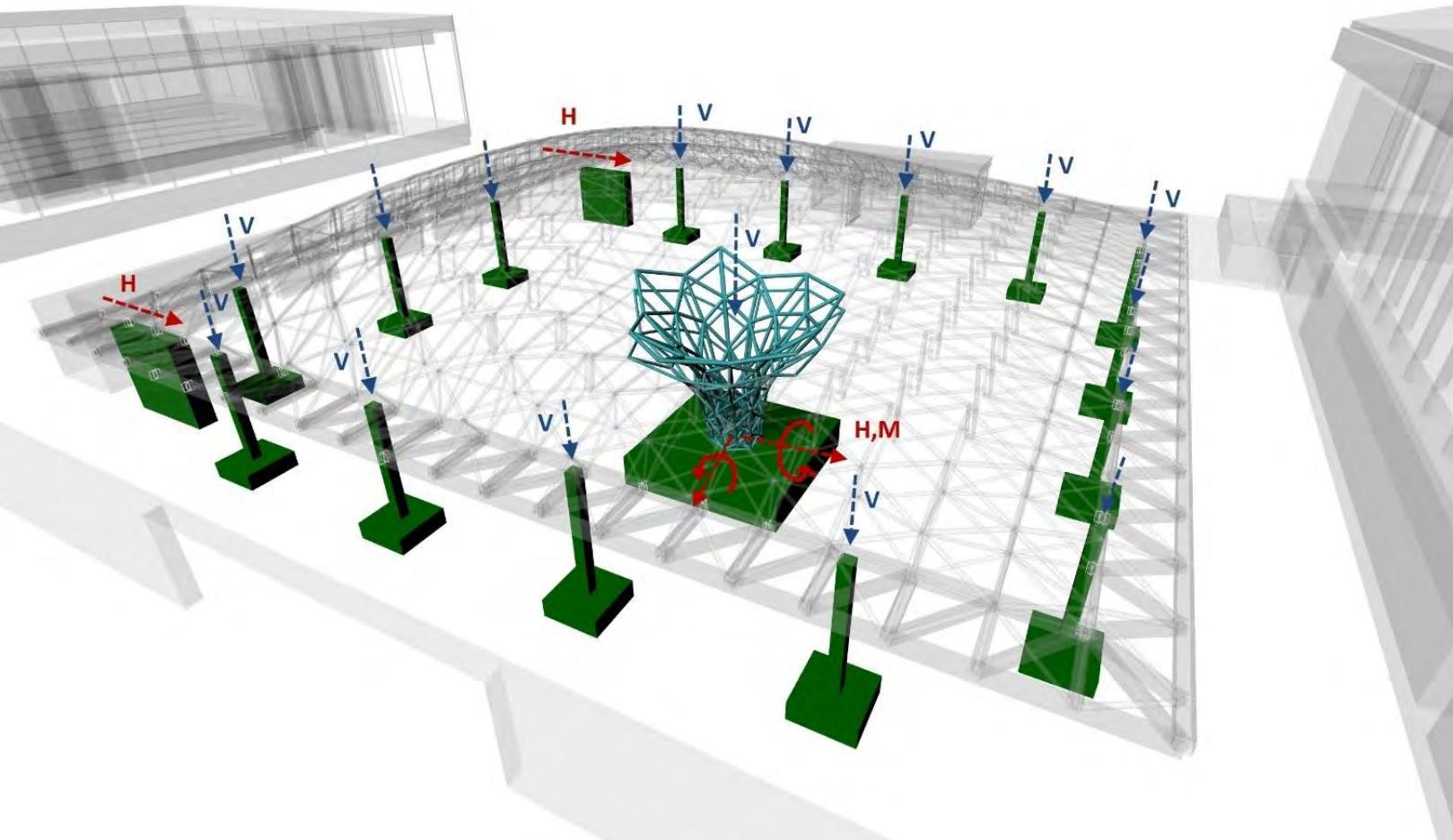
(NARRATIVE)

The selection of the supports allows the new roof to act almost independently from the existing structure.



ArtEngineering GmbH
engineering & realisation

The selection of the supports allows the new roof to act almost independently from the existing structure.



PROPOSAL STUDY MODELS

Photos

(DESCRIPTION)

Series of pictures of a mock-up of the structure, showing how the roof is perceived at different angles with varying backgrounds.

Description of the main materials involved.

(NARRATIVE)

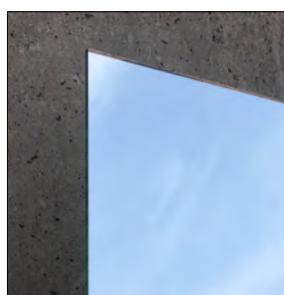
Due to the asymmetry of its shape and the integration of downward facing reflective surfaces, the roof generates different ways of combining the environments above and below it.



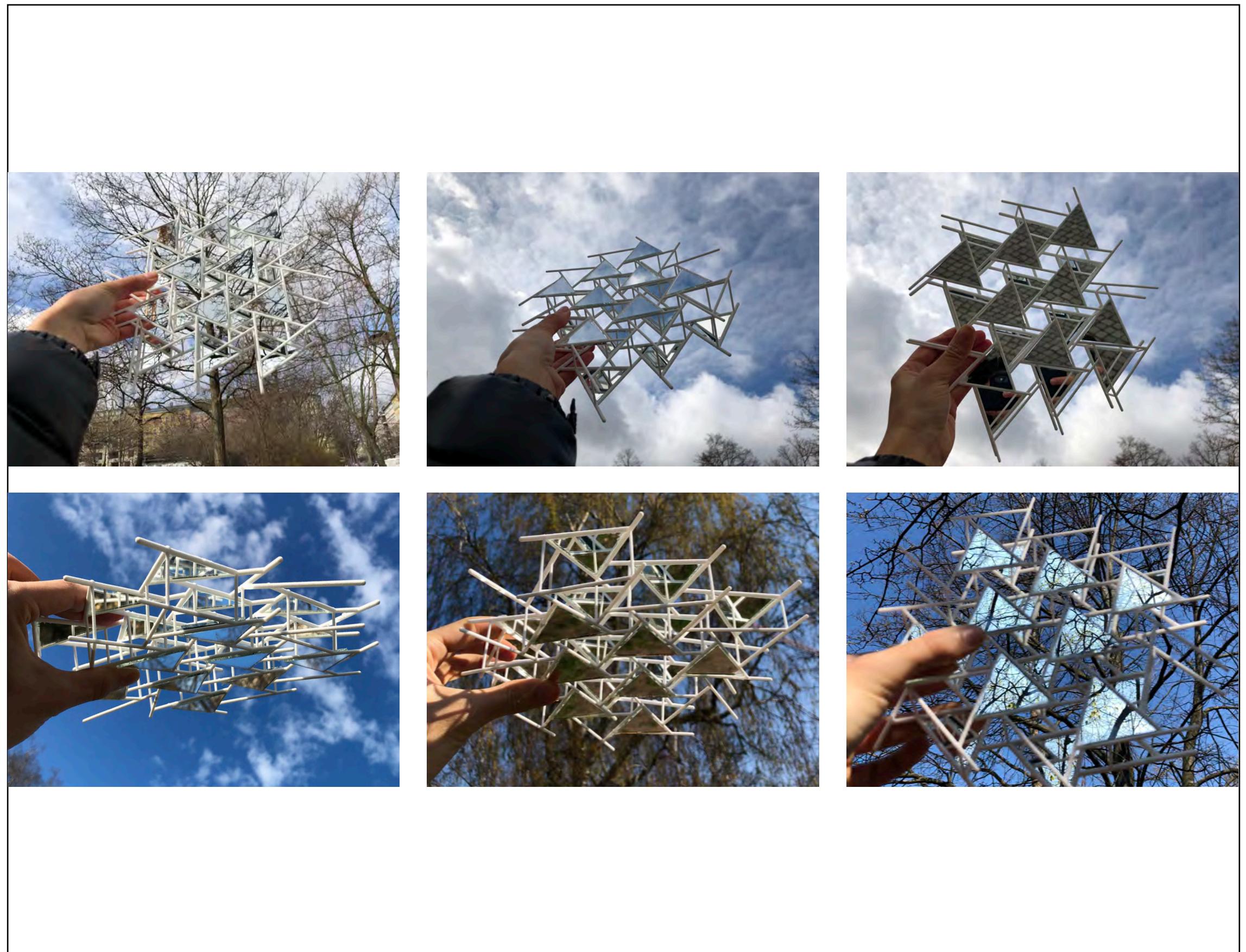
white coated stainless steel, hollow round section structure.



clear glass, triangular and hexagonal panels.



reflective triangular panels.



S
O
S

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www.studiootherspaces.net
[@studiootherspaces](https://www.instagram.com/studiootherspaces)

Thornton Tomasetti

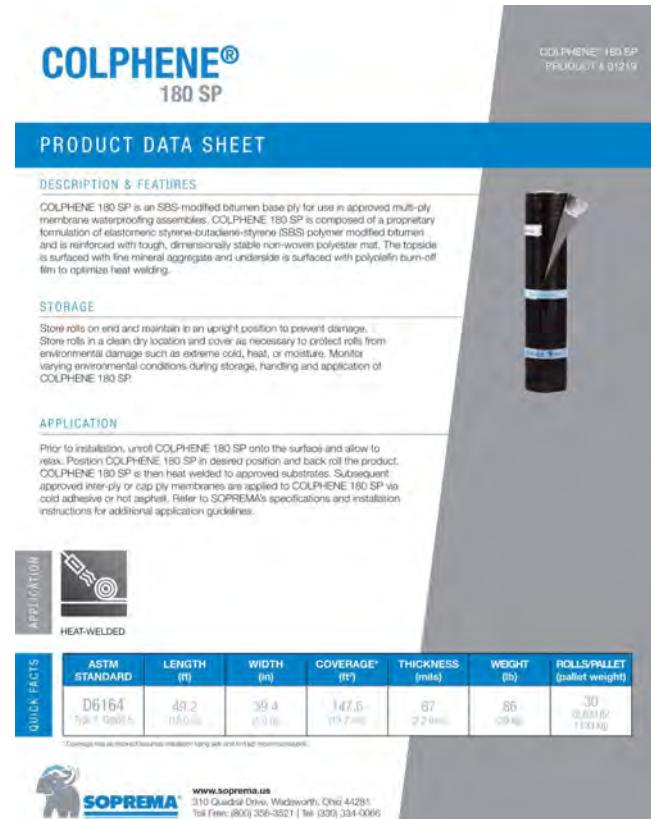
**ALBRIGHT-KNOX ART GALLERY
PROPOSED ROOFING AND MASONRY REPAIRS
TO 1905 & 1962 BUILDINGS
BPB SUBMISSION**

April 9, 2019

Page 1 of 36



Soprema Colphene 180 SP
SBS sheet for EPDM roofing replacement



SHEET PROPERTIES		
Reinforcement	Non-woven polyester	
Elastomeric bitumen	Proprietary blend of bitumen and SBS polymers	
Top surfacing	Sanded	
Back surfacing	Polyethylene film	
Sealage surface	Polyethylene film	
Sealage width, in (mm)	3.09	
End lap, in (mm)	6 (15.2)	

DIMENSIONS & MASS		
Thickness, mils (mm)	0.7 (0.02)	ASTM D6164
Net mass per unit area, lb/100ft ² (g/m ²)	54 (25.2)	ASTM D6164

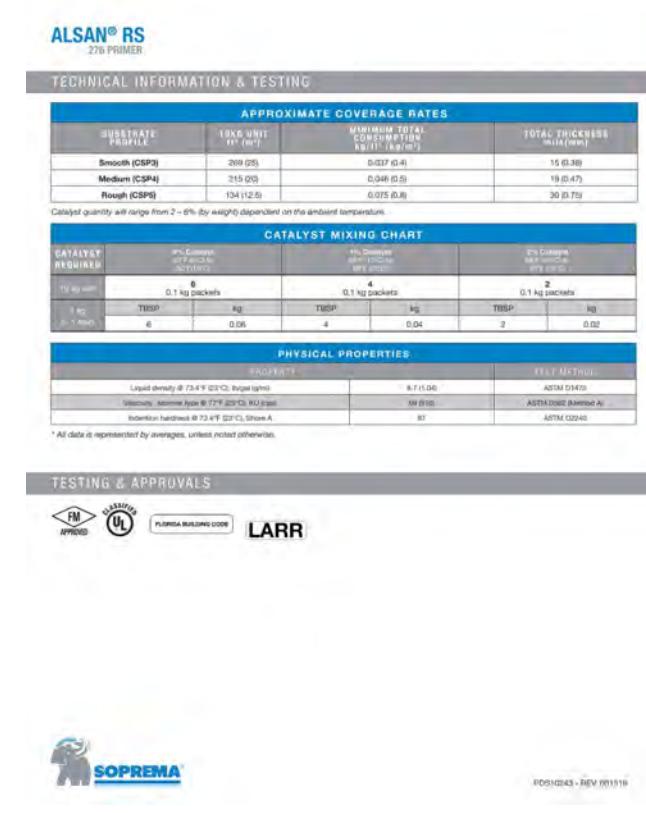
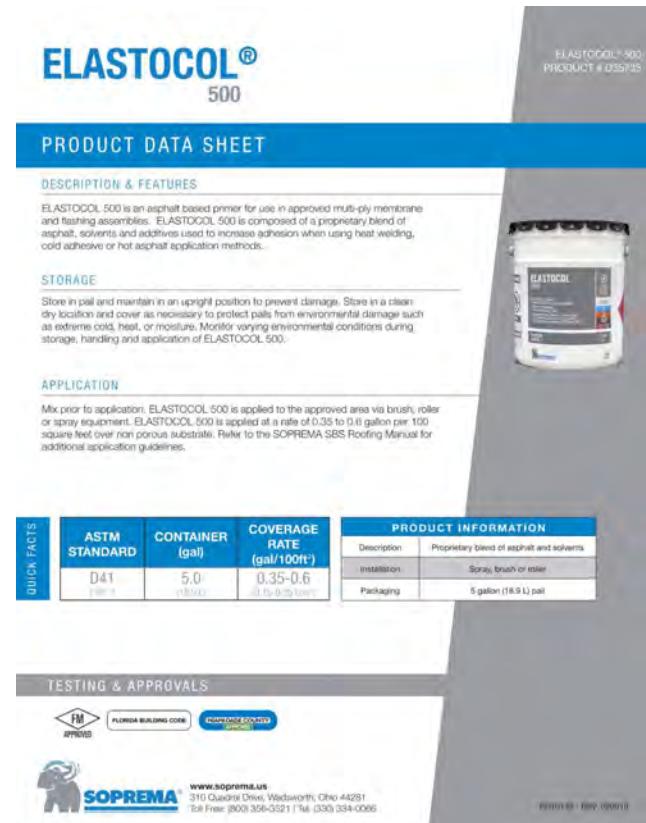
PHYSICAL PROPERTIES		
Peak load @ 0°F (-18°C), 6ft/in (64N/m)	110 (9.3)	ASTM D6164
elongation at peak load @ 0°F (-18°C), %	25	ASTM D6164
Peak load @ 73.4°F (23°C), 6ft/in (64N/m)	65 (14.8)	ASTM D6164
Elongation at peak load @ 73.4°F (23°C), %	55	ASTM D6164
Ultimate elongation @ 73.4°F (23°C), %	60	ASTM D6164
Tear strength @ 73.4°F (23°C), lb/in	125 (550)	ASTM D6164
Low temperature flexibility, °F (°C)	-19 (-28)	ASTM D6164
Dimensional stability, %	< 0.5	ASTM D6164
Compound stability, °F (°C)	240 (116)	ASTM D6164
Hydrostatic head pressure	Pass	ASTM D3385
Water vapor permeance, perm (mg/mm ² ·Pa)	< 0.004 (0.23)	ASTM E96 Procedure B
Puncture Resistance, max load, lb (N)	215 (956)	ASTM E154

* Data is represented by average values, unless noted otherwise.

TESTING & APPROVALS



**Soprema PMMA Membrane
for EPDM roofing replacement and copper roof overcoat**



Soprema PMMA Membrane for EPDM roofing replacement and copper roof overcoat

ALSAN® RS
230 FLASH

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

ALSAN RS 230 Flash is a high performance, rapid-setting, polymethyl methacrylate (PMMA) liquid resin for use in flashing applications. ALSAN RS 230 Flash is catalyzed with ALSAN RS catalyst powder and combined with ALSAN RS Fleece to form a flexible, monolithic, reinforced membrane.

STORAGE

Always store closed containers in cool, ventilated and dry locations away from heat and oxidizing agents. Do not store in direct sunlight or in temperatures below 32°F (0°C) or above 77°F (25°C). Approximate shelf life is twelve months from date of shipment when properly stored, sealed and unmixed.

APPLICATION

ALSAN RS 230 Flash is applied via brush or roller. Prior to application, refer to published specifications and approved details for complete application instructions. The applicator is responsible for ensuring conditions are appropriate to proceed with proper application methods.

APPLICATION

BRUSH ROLLER

QUICK FACTS

UNIT SIZE (kg)	AMBIENT TEMP (°F)	SUBSTRATE TEMP (°F)	RESIN TEMP (°F)	POT LIFE (min)	RAIN PROOF (min)	NEXT LAYER (hour)	FULLY CURED (hour)
12 (16L)	23-95 (5-35°C)	23-122 (5-50°C)	37-86 (3-30°C)	15-20 (10-15°C)	30-45 (10-15°C)	1-1.5 (10-15°C)	3-6 (10-15°C)

SOUPREMA www.soprema.us 310 Quaker Drive, Wadsworth, Ohio 44281
Toll Free: (800) 356-3521 | Tel: (330) 334-0096

ALSAN® RS
230 FLASH

TECHNICAL INFORMATION & TESTING

APPROXIMATE COVERAGE RATES

SUBSTRATE PROFILE	12 AG UNIT (ft ² /16L)	MINIMUM TOTAL CONSUMPTION kg/ft ² (kg/m ²)	MAX TOTAL CONSUMPTION kg/ft ² (kg/m ²)	TOTAL THICKNESS mm (in)	BLAST CLEANING	TOUGHENED
Smooth	43 (4.0)	0.28 (0.0)	0.18 (0.0)	96 (2.5)	60 (1.6)	
Typical	39 (3.8)	0.31 (0.3)	0.21 (0.2)	106 (2.7)	73 (1.9)	
Granulated	34 (3.2)	0.36 (0.8)	0.29 (0.8)	122 (3.1)	90 (2.3)	22 (0.8)
Rough	30 (2.8)	0.40 (4.0)	0.30 (3.0)	140 (3.5)	108 (2.7)	

CATALYST MIXING CHART

CATALYST REQUIRED	SUMMER FORMULATION		WINTER FORMULATION	
	4% Catalyst, 80°F (27°C)	2% Catalyst, 40°F (4°C)	4% Catalyst, 40°F (4°C)	2% Catalyst, 20°F (-7°C)
1/2 kg	5 TBSP	2.5 TBSP	7 TBSP	5 TBSP
1 kg	10 TBSP	5 TBSP	14 TBSP	7 TBSP
2 kg	20 TBSP	10 TBSP	28 TBSP	14 TBSP

PHYSICAL PROPERTIES

ITEM #	TEST METHOD	TEST METHOD	
Peak load @ 73.4°F (23°C) control, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 23.4°F (0°C) control, %	ASTM D6147	ASTM D6147	
Peak load @ 73.4°F (23°C) post heat aging, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 73.4°F (23°C) post heat aging, %	ASTM D6147	ASTM D6147	
Peak load @ 73.4°F (23°C) post heat aging, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 73.4°F (23°C) post heat aging, %	ASTM D6147	ASTM D6147	
Peak load @ 67.7°F (19°C) control, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 67.7°F (19°C) control, %	ASTM D6147	ASTM D6147	
Peak load @ 67.7°F (19°C) post heat aging, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 67.7°F (19°C) post heat aging, %	ASTM D6147	ASTM D6147	
Peak load @ 67.7°F (19°C) control, 80°F (27°C)	ASTM D6147	ASTM D6147	
Elongation @ 67.7°F (19°C) control, %	ASTM D6147	ASTM D6147	
Dimensional stability, %	ASTM D6141	ASTM D6141	
Static puncture resistance, IPN (N)	Pass 16 (20)	ASTM D6032	
Shear strength, Tensile, %	ASTM D6240	ASTM D6240	
Water absorption, %	ASTM D670 (at 212°F)	ASTM D670 (at 212°F)	
Water vapor permeability, g/m ² ·s	ASTM E96	ASTM E96	
Low temperature flexibility, °F (°C)	Pass -33 (-34, 1)	Pass -30 (-34, 1)	ASTM D1954
Low temperature crack cracking, °F (°C)	No crack	ASTM D1959	
Self ignition, °F (°C)	752 (400)	ASTM D1959	
Smoke density index	100	ASTM E65	
Rate of burning, in/mm (inch)	0.9 (1.4)	ASTM D635	

CODES & APPROVALS

FM CLASSIFIED FLORIDA BUILDING CODE

PDG10206-REV. 001519

ALSAN® RS
FLEECE

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

ALSAN RS Fleece is a proprietary non-woven polyester reinforcement used in ALSAN RS Membrane reinforcement products. ALSAN RS Fleece is available in a roll or in pre-cut detail kits for corners and small and large laps.

ALSAN RS Fleece should not be used with ALSAN Flash or GOLPHANE LM 64988 Products. These products should be used with SOPREMA Polyflock. For more information visit each products respective product data sheet.

STORAGE

Always store in a dry location protected against the elements. Store on end to avoid deforming rolls and creasing fabric.

APPLICATION

Mix and apply ALSAN RS products in strict accordance with published instructions. Apply mixed resin to the prepared surface and roll out ALSAN RS Fleece into the liquid resin, making sure that the roll is unrolling smooth and without any wrinkles. ALSAN RS Fleece will begin to saturate into the liquid resin. Using a roller, wet the fleece with resin, applying light pressure. Roll the fleece with a nap roller to eliminate any air bubbles, wrinkles, etc. Apply additional liquid resin mix on top of ALSAN RS Fleece until fully saturated and the layer of resin is fully and uniformly applied. Allow a 2 inch (5 cm) overlap at the side laps and 4 inch (10 cm) overlap at all flashing laps and end laps.

QUICK FACTS

THICKNESS (mils)	WEIGHT (oz/ft ²)
25 (0.63)	0.36 (1.0 g/cm ²)

SOUPREMA www.soprema.us 310 Quaker Drive, Wadsworth, Ohio 44281
Toll Free: (800) 356-3521 | Tel: (330) 334-0096

ALSAN RS®
CATALYST POWDER 50%

PRODUCT DATA SHEET

DESCRIPTION & FEATURES

ALSAN RS Catalyst Powder 50% is a reactive agent used to induce curing of ALSAN RS resin products.

STORAGE & HANDLING

Wear proper PPE (personal protective equipment) when handling this product and avoid contact with skin and eyes. Always store closed containers in a cool, ventilated and dry location away from heat sources. Do not store in direct sunlight or in temperatures below 32°F (0°C) or above 77°F (25°C). To avoid possible exothermic self-accelerating decomposition, do not store in direct sunlight or expose the product to temperatures exceeding 131°F (55°C). Store away from reducing agents, strong oxidizers, acids, alkalis and accelerators.

APPLICATION

Using a slow-speed (200 to 400 rpm) mechanical agitator, premix the entire container of resin for two minutes before each use. Including prior to pouring off resin into a second container if batch mixing. Catalyze only the amount of material that can be applied with 10-15 minutes. Add premixed catalyst to the resin component, mix for two minutes and apply to substrate. Refer to individual product data sheets for specific recommendations and requirements for the resin being used. The amount of catalyst added to ALSAN RS resins varies by resin type, quantity of resin to be mixed, and by the ambient temperature during mixing and installation.

Refer to specific ALSAN RS product data sheets and specifications for additional application information.

QUICK FACTS

PACKAGING (kg)	PACKAGING (kg)
0.1 (0.26)	25 (55.0)

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ALSAN® RS

TECHNICAL INFORMATION & TESTING

ROLL FLEECE DIMENSIONS

ITEM #	FLEECE WIDTH (in)	FLEECE LENGTH (ft)	ROLLS/BOX (ft)
L-RS0278	41.3 (105)	164 (50)	565.1 (60.5)
L-RS023B	20.9 (53)	164 (50)	288.4 (26.5)
L-RS024A	13.8 (35)	164 (50)	168.4 (17.5)
L-RS028B	8.8 (22)	164 (50)	134.5 (12.5)
L-RS029A	3.9 (10)	164 (50)	53.8 (5.0)

PRE-CUT FLEECE DIMENSIONS

ITEM #	APPLICATION	DIMENSION (in) (W) x (H) (in)	ROLLS/BOX (ft)
L-RSP0SP	Small Pipe (10)	10" x 12" (27.9x30.4) - 2 piece target 11" x 12" (27.9x30.4) - 1 small pipe skirt	0.5 to 1 (4.2 to 7.6)
L-RSP0LP	Large Pipe (10)	1" x 2" (33.0x60.96) - 2 piece target 1" x 30" (27.3x76.2) - 1 large pipe skirt	4 to 8 (10.2 to 20.0)
L-RSP0FC	Universal Corner (10)	6 x 6 (15.2x15.2) - 1 piece	Inside and outside corner details

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	
Roll Weight, oz/ft ² (g/m ²)	0.36 (110)	ASTM D976
Thickness, mils (mm)	25 (0.63)	ASTM D1777
Tensile strength, lb/in (N/mm)	53 (225) 69 (260)	ASTM D6034
Elongation % MD CD	70 80	ASTM D6034

TESTING & APPROVALS

FM APPROVED

PDG10206-REV. 001519

CODES & APPROVALS

FM CLASSIFIED FLORIDA BUILDING CODE

PDG10206-REV. 001519

SOUPREMA

PDG10206-REV. 001519

Cathedral Stone - Jahn M120

Stone patching compound

JAHN
Marble Repair Mortar

CERTIFIED INSTALLERS ONLY

This single-component, cementitious, mineral-based mortar is designed for the restoration of marble. Jahn M120 is completely vapor permeable and contains no latex, acrylic, or bonding agents or additives. M120 is formulated for compatibility with marble substrate and is available in Standard, Premium, and Custom Colors. M120 provides a permanent solution, which both restores and protects the beauty of the marble. (Only Certified Installers may purchase Jahn M120 Marble Repair Mortar.)

Features and Benefits: Single-Component. Mixes with water only, improving quality control and consistency of application.

Compatible Formulations: Compatibility of physical properties ensures that the mortar and natural substrate react to the environment in the same way.

Contains No Latex or Acrylic Bonding Agents: It protects the substrate by allowing salts, water vapor, and liquid water to reach the surface, preventing future damage.

Tenacious Adhesion: Strong bonding capabilities without relying on synthetic bonding agents.

Factory Controlled: No field chemistry resulting in product variation.

Custom Colored Upon Request: Closely matches existing masonry. Choose from Standard or Custom Colors.

Certified Installers: Only installers with certification from Cathedral Stone Products can purchase Jahn M120 Marble Repair Mortar.

Application Procedures:

Surface Preparation: Surface to be repaired with M120 must be sound and free of all dust, dirt, grease, laitance and/or any other coating or foreign substance which may prevent proper adhesion. Remove all loose and deteriorated masonry from the repair area using manual or pneumatic cutting tools. The area to be repaired should be cut to provide a minimum of 1/2"

Packaging and Coverage: 5-gallon plastic pail contains approximately 44 lb. of mortar. This will cover 0.5 cubic feet (12 square feet) at 1/2" thickness.

Storage and Shelf Life: Store material in a dry area away from direct sunlight. Ambient storage conditions should be in the range of 40° F to 90° F, with low to average humidity. Average shelf life is 10 years in original, unopened packaging.

Technical Data: Jahn M120 – Marble Repair Mortar

Warning: Not for internal consumption. Keep out of reach of children and animals. Contact Material Safety Data Sheet for specific information.

Notice: The information contained herein is based on our own research and the research of others, and it is provided solely as a service to help users. It is believed to be accurate to the best of our knowledge. However, it is the user's responsibility to determine, and it is not intended to serve as the basis for determining this product's suitability in any particular situation. For this reason, purchasers are responsible to make their own tests and assume all risks associated with using this product.

Clean Up: Remove unused mortar from the perimeter of the repair before it dries using clean water and a sponge. Repeat several times with clean water to prevent staining effect (staining of adjacent masonry). Cured mortar may only be removed chemically or mechanically.

Safety Requirements: It is recommended that safety goggles, gloves, and a dust mask equipped with P-2 filters (or equivalent) be worn for protection while mixing.

Limitations: Do not apply Jahn Mortar to frozen or exceedingly hot substrate. The applied mortar must be protected from extreme heat, freezing, excessive wind, direct sunlight, and rain. Ambient temperature range should be 40° F to 90° F with low to average humidity. Do not add bonding agents to Jahn Mortar or use them as surface preparation materials. Minimum thickness of mortar application is 1/8".

Cathedral Stone® Products, Inc. 7268 Park Circle Drive, Hanover Maryland 21076 (800) 684-0901 FAX: (410) 782-9155 WEBSITE: www.cathedralstone.com

Edison Coatings - Custom SYSTEM 45

Stone patching compound

Edison Coatings, Inc.

Custom SYSTEM 45

Composite Repair Compounds for Stone, Masonry & Concrete

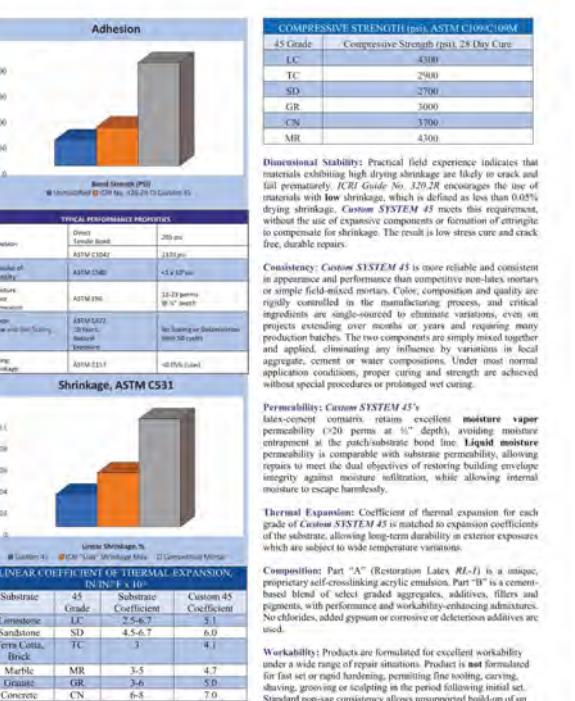
Exterior Facade Metal: In the event that ferrous metal reinforcement (rebar, threaded rod, etc.) is exposed within the repair area or substrate, it must be removed using appropriate anchoring systems etc. the Corotech V160 Surface Tolerant Epoxy Masonry Line must be applied to all properly prepared ferrous metal surfaces before repairs are made. Refer to the Technical Data Sheet within Cathedral Stone's Product line for proper procedures and use of the Corotech V160 Surface Tolerant Epoxy Masonry Line.

Mixing: The mixing ratio is approximately 4 to 4 1/2 parts water to 1 part mortar by weight (or small material in case of repair). Mixing time is dependent on temperature and humidity. More water may be required as ambient temperature rises. The mixing may be done by hand, stirring until the mortar is thoroughly mixed. The mortar should be the consistency of damp sand. A hand mixer should be used at 100 rpm (400 - 600 rpm) equipped with a slitter-type mixing paddle. For best results, add the powder to the water slowly. The working time will vary depending upon wind, temperature, and humidity. Using excessive water in the mixture may affect the cure of the repair.

Application: Mortar the substrate using clean water. Jahn Mortar should be applied to a glistening wet surface in vertical applications and well-drained horizontal surfaces. When applying, water will penetrate the surface. If the surface is allowed to dry out before applying M120, this step must be repeated. This is very important.

The next step of the application is what CSP has termed the "Peanut Butter" coat. The Jahn mortar should be mixed with

The Palladium Building, New Haven, CT, Listed, National Register of Historic Places, shown here 35 years after application of more than 16,000 lbs. of repair mortar, remains an ongoing testimonial to the exceptional durability, compatibility and aesthetics provided by Custom System 45.



Custom SYSTEM 45

Edison Custom SYSTEM 45 products are two-component, latex-modified, cementitious compounds used to produce highly durable and compatible aesthetic repairs to masonry and concrete. They may also be used as stone-like finishes on a variety of other substrates.

Once the cause of poor repair application on historic restoration projects, **Custom SYSTEM 45** masonry repair mortars have been matched to thousands of different types and sources of natural stone, concrete and clay masonry. Ten distinct base formulas are used:

TYPE	SUBSTRATE
LIQUID / PLASTIC PHASE	
Ratio of water/dry material	3 fl. oz. to 4.5 lb.
Volume per pound mixed mortar	12.0 fl. oz./lb.
HARDENED PHASE	
Compressive strength	4700 to 5000 psi
Tensile bending strength	650 psi
Tensile strength	150 psi
Linear coefficient of thermal expansion	0.0106-0.0262" / °F
Modulus of elasticity	12000 to 15400 ksi
Open porosity (%)	4.2 to 16.5
Specific gravity	1.3

Custom SYSTEM 45 repair mortars, refer to the product data for **XPLC-JOINT 46**. For complete cement plaster replacement systems, refer to the product data sheet for **CEM-PLAST 54**. For natural cement systems, see **Resinable Natural Cement Products**.

In each case a mechanically compatible formulation is prepared, based on suitable aggregates of similar composition, color and gradation to the material being repaired. Final color adjustment is achieved, where required, using low levels of highly stable inorganic pigments and fillers.

Custom SYSTEM 45 has provided durable, inconspicuous repairs on a wide variety of structures, including churches, schools, museums, post offices, courthouses, university buildings, hospitals, libraries, railroad stations, apartment buildings, hotels, office buildings and private residences.

Custom SYSTEM 45 latex-modified mortars can achieve compressive strengths similar to the substrate being repaired while maintaining lower modulus than the host material. This assures that the repair mortar always behaves as the softer material, relieving stress and preventing damage or premature failure.

Appearance: **Custom SYSTEM 45** latex-modified mortars can be easily matched to the existing masonry. Repairs can be virtually indistinguishable from original work, and accelerated weathering (ASTM G154-16) and natural exposure testing assure long-term color retention. Finishes are UV-stable and non-yellowing.

Safety: Products are non-corrosive, non-flammable, non-combustible and contain no toxic solvents, monomers or diluents. Low odors allow interior as well as exterior application. Powder components are formulated and graded to exclude toxic respirable crystalline silica.

THE COLOR & GRADE SELECTION PROCESS

Custom SYSTEM 45 is available in 10 standard grades and over 3000 colors. Test kits and custom color matching services are available at nominal costs. For best results, send cleaned samples of the substrate to be repaired to Edison Coatings, Inc. for evaluation.

The following are key elements in successful color selection:

1. Choose representative samples for matching. Choose color on the basis of the actual range of colors on the building. Samples should be taken in the repair area, using the same aggregate as will be used. For optimum color control, temperature must be above minimum at time of application, and must be maintained until product has dried thoroughly. Drying time may vary from hour to two (thin patches, warm and dry weather) to several days (deep patches, cool and damp conditions).

2. Use multiple colors. Stone and masonry are often variable in color, and better overall match is often achieved through use of more than one color of **Custom SYSTEM 45**. Intermediate shades can be produced by blending light and dark shades of **Custom SYSTEM 45** in appropriate ratios.

3. Install test patches. The most accurate way to evaluate visual compatibility is through *in situ* test patching. Allow adequate cure time before final evaluation. Initial color should be *darker* than the substrate.

APPLICATION:

1. **Surface Preparation:** Durable, effective repairs require clean, sound substrates. Remove all contaminants, coatings, efflorescence, unsound mortar and inappropriate previous repair mortars. If large deep repairs are to be made, use a combination of mechanical keying or undercutting to allow a minimum of 2 hours "cure" after application. Over-thinned or rapidly-dried surfaces may develop plastic cracking shortly after application. Remove and replace any such cracked patches.

2. **Curing:** Product should be allowed to dry cure after a brief initial moist period. Do not stain clean or pressure wash patches which have not fully cured. Application in direct sun will produce temporarily robust colors, which will tone down to the "normal" color after a brief period of natural exposure. Color adjustment may be required during *in situ* application of **SYSTEM 45-H-Crete** or **SYSTEM 45-Cement**. **Custom SYSTEM 45** is also available in several translucent shades which simulate the patina of aging, to give repairs a more "weathered" appearance. For best long-term durability, **SYSTEM 45-W** can be applied to all weathering adjacent original materials. Use **Liquidizer 94**.

3. **Finishing & Carving:** Product set is not accelerated. Bluff material steadily, using a light sweeping stroke, and allowing time to set. "Tilt" the brush in the direction of the repair. Finishing tools may be curved to suit the mechanics and workpiece. Finishing tools prefer to tool and finish immediately, while product remains in a plastic state, others prefer to wait until initial set, typically an hour or two after application. Product is easily shaved in this stage of hardening but may be carved at any time after application. Some additional hardening is also possible the following day. **For very deep repairs, consider forming and pouring full-depth in a single application using **Custom System 45** mixed with **RL-2** Superplasticized Latex.**

4. **Curing:** Product should be allowed to dry cure after a brief initial moist period. Do not stain clean or pressure wash patches which have not fully cured. Application in direct sun will produce temporarily robust colors, which will tone down to the "normal" color after a brief period of natural exposure. Color adjustment may be required during *in situ* application of **SYSTEM 45-H-Crete** or **SYSTEM 45-Cement**. **Custom SYSTEM 45** is also available in several translucent shades which simulate the patina of aging, to give repairs a more "weathered" appearance. For best long-term durability, **SYSTEM 45-W** can be applied to all weathering adjacent original materials. Use **Liquidizer 94**.

5. **Storage & Handling:** Proper care should be taken when handling cement-based materials, to avoid skin and eye contact and avoid breathing dust. Some formulations contain free silica, and proper NIOSH-approved face dust mask should be used. Product should be stored in a dry place off the ground.

6. **Interactions:** If work will be interrupted due to deep weather or other limitations, always try to mask off any incipient "breaks", such as columns or ledges.

7. **Color Blending:** On masonry exhibiting unit-to-unit color variations, more than one custom color may be needed to even out

peppermint which works and handles best for your particular application and **Custom SYSTEM 45** formulation, and then measure the same proportions for each mix. Mix ratios are generally between 5:1 and 7:1 by weight, or between 3 quts. (3 liters) and 5 quarts (5 liters) per 45 lb. (20 kg) pail. Good results can also be obtained by thorough hand mixing. Do not mix more material than can be applied in about 15 minutes. To blend fresh patch appearance with weathered adjacent original materials, use **Liquidizer 94**.

inconspicuous repairs. Generally, varied blends of patch colors are less conspicuous than a single, uniform repair color. Alternatively, an intermediate shade should be selected, and color shading can later be achieved using **EXPO 45** cement-based frosting or **Units 300** mineral stain, which may be applied to all or part of the areas which are repaired. To blend fresh patch appearance with weathered adjacent original materials, use **Liquidizer 94**.

8. **Cold Weather:** Minimum temperature for optimum color control is 50° F (10° C). For good mechanical results are obtained at temperatures above 40° F (4° C), color development may be lighter than optimum. For optimum color control, temperature must be above minimum at time of application, and must be maintained until product has dried thoroughly. Drying time may vary from hour to two (thin patches, warm and dry weather) to several days (deep patches, cool and damp conditions).

9. **Hot Weather:** Stone materials in a cool place, out of direct sun to reduce water prior to application. Do not apply to hot weather surfaces. Hot, warm temperatures can cause fast set and early failure. Use **Restoration Latex** to extend working time. Lightly spray water on or over patches, cool and damp conditions. Moderate temperatures and air flows work best, and heated air preferable to burner exhausts which are high to CO2.

10. **Weather:** Stone materials in a cool place, out of direct sun to reduce water prior to application to reduce stress and prevent cracking. **Custom SYSTEM 45** is a latex-modified repair mortar. It is not recommended to use latex-modified mortars in direct sun to reduce water prior to application to reduce stress and prevent cracking. **Custom SYSTEM 45** is a latex-modified repair mortar. It is not recommended to use latex-modified mortars in direct sun to reduce water prior to application to reduce stress and prevent cracking.

11. **Storage:** Proper care should be taken when handling cement-based materials, to avoid skin and eye contact and avoid breathing dust. Some formulations contain free silica, and proper NIOSH-approved face dust mask should be used. Product should be stored in a dry place off the ground.

12. **Interactions:** If work will be interrupted due to deep weather or other limitations, always try to mask off any incipient "breaks", such as columns or ledges.

13. **Color Blending:** On masonry exhibiting unit-to-unit color variations, more than one custom color may be needed to even out

peppermint which works and handles best for your particular application and **Custom SYSTEM 45** formulation, and then measure the same proportions for each mix. Mix ratios are generally between 5:1 and 7:1 by weight, or between 3 quts. (3 liters) and 5 quarts (5 liters) per 45 lb. (20 kg) pail. Good results can also be obtained by thorough hand mixing. Do not mix more material than can be applied in about 15 minutes. To blend fresh patch appearance with weathered adjacent original materials, use **Liquidizer 94**.

14. **FOR COMMERCIAL & INDUSTRIAL USE**

Revised: 03/2019

3 Northcoast Drive, Plaistow, NH 03862

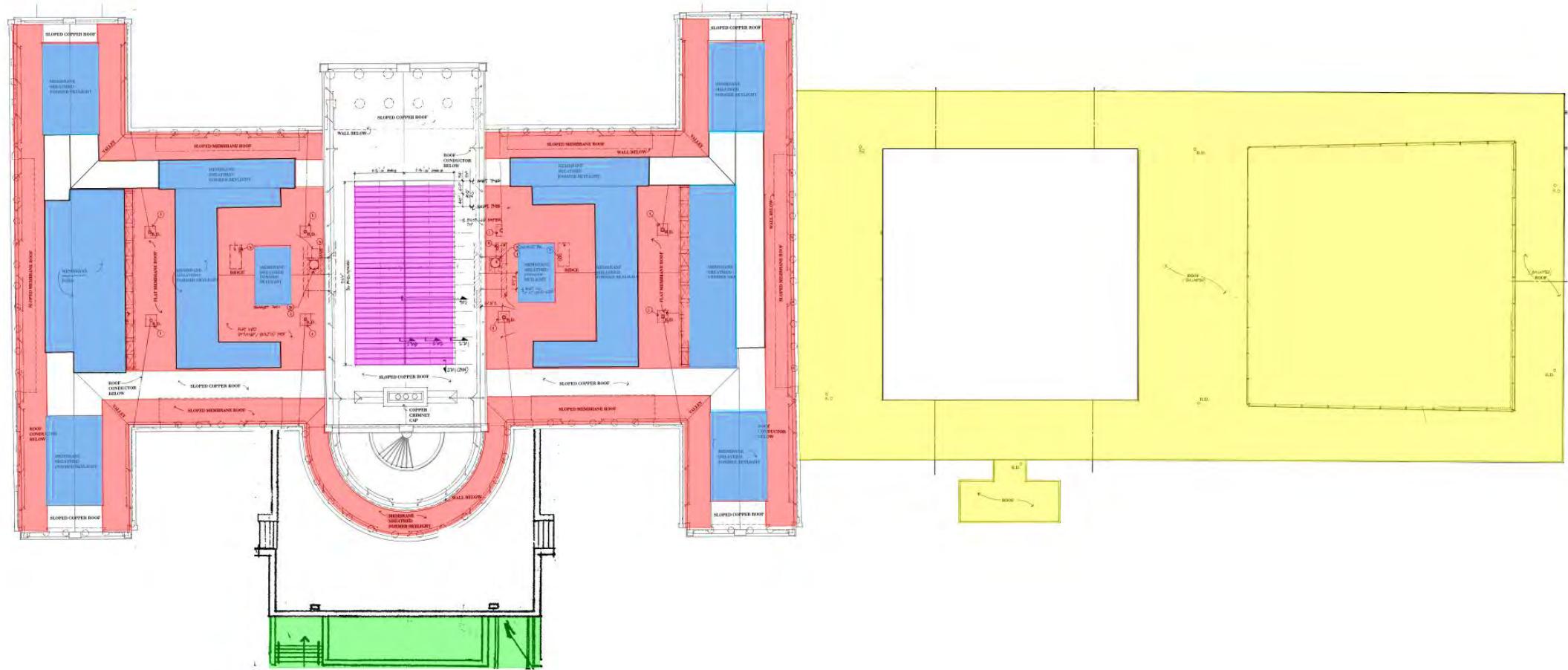
Phone: (603) 747-2220 or (800) 341-6621

E-mail: edisoncoatings@outlook.com Internet: www.edisoncoatings.com

Edison Coatings products are for commercial use only. In case of fire or explosion, repair material will be replaced at no cost. No other warranties, except for such replacement, express or implied, as in effect. Any implied warranty of merchantability or fitness for a particular purpose is expressly disclaimed. Although certain physical properties of the repair material are herein set forth, it is to be understood, that due to the inherent nature of the repair material, such properties are not guaranteed. Products are to be used in accordance with safe practices and applicable codes. Products are to be used in accordance with safe practices and applicable codes. Products are to be used in accordance with safe practices and applicable codes.

1905 BUILDING

Interventions



- 1962 Modern wing added (yellow highlight).
- 1962 Granite stairs at west patio are removed (green highlight).
- _____ First round of windows filled in (based on 1962 drawing notes).
- 1962 Remaining windows filled in.
 - _____ Lower sloped copper roof is over-coated with liquid-applied waterproofing (based on 1997 photos pre-EPDM).
- 1997 EPDM rubber roofing installed (red highlight).
- _____ Skylights covered over (blue highlight).
- _____ Vault-lights in loggia covered over with sheet metal (based on 1997 photos pre-mod-bit roofing).
- 1997 Sheet metal over vault-lights covered over with mod-bit roofing.
- 1997 Skylight replaced over central bay (purple highlight).
 - _____ Sealant installed into mortar joints.

1905 BUILDING**Batten-seam sheet metal roof**

Existing Condition: Photos showing deteriorated sheet metal roofing with open joints/ seams and signs of previous repair programs. The sheet metal roof was recently found to be the origin of leak that damaged a painting in the gallery. Sheet metal roof is 114 years old and as such past its expected service life.



1905 BUILDING**Batten-seam sheet metal roof**

Proposed Scope: Retain the existing sheet metal roof. Overcoat with liquid-applied reinforced membrane in color to match existing copper patina; overcoat is recommended to retain the historic batten-seam aesthetic while extending the life of the deteriorated fabric. This has been performed successfully at other Landmarked buildings, examples show HR Richardson Complex in Buffalo (photos left) and the Helmsley Building in NYC (photos right).

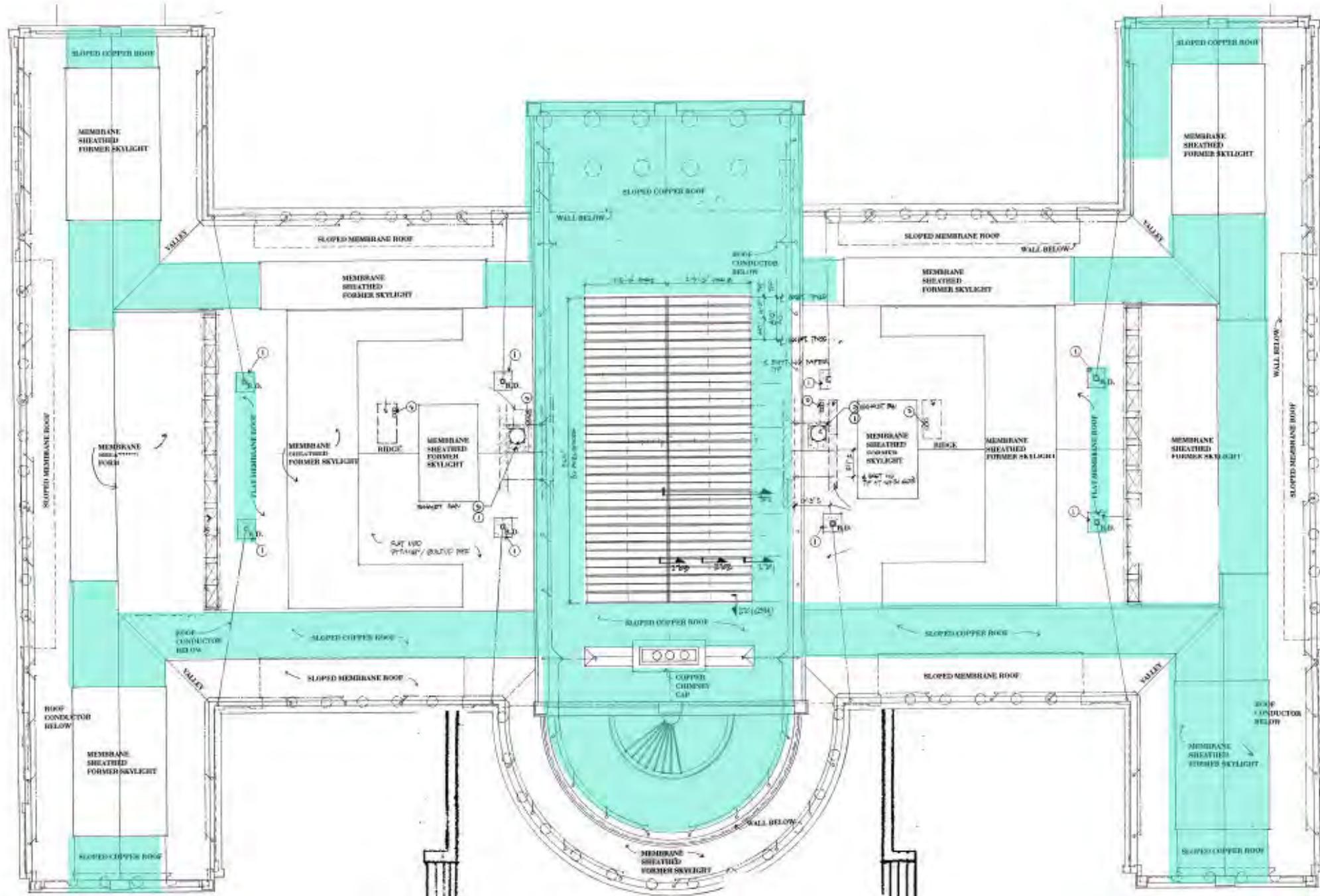


1905 BUILDING

Batten-seam sheet metal roof

Area of Existing Copper Roof to be Over Coated.

See pages 4 and 5 for roofing membrane cut sheets.



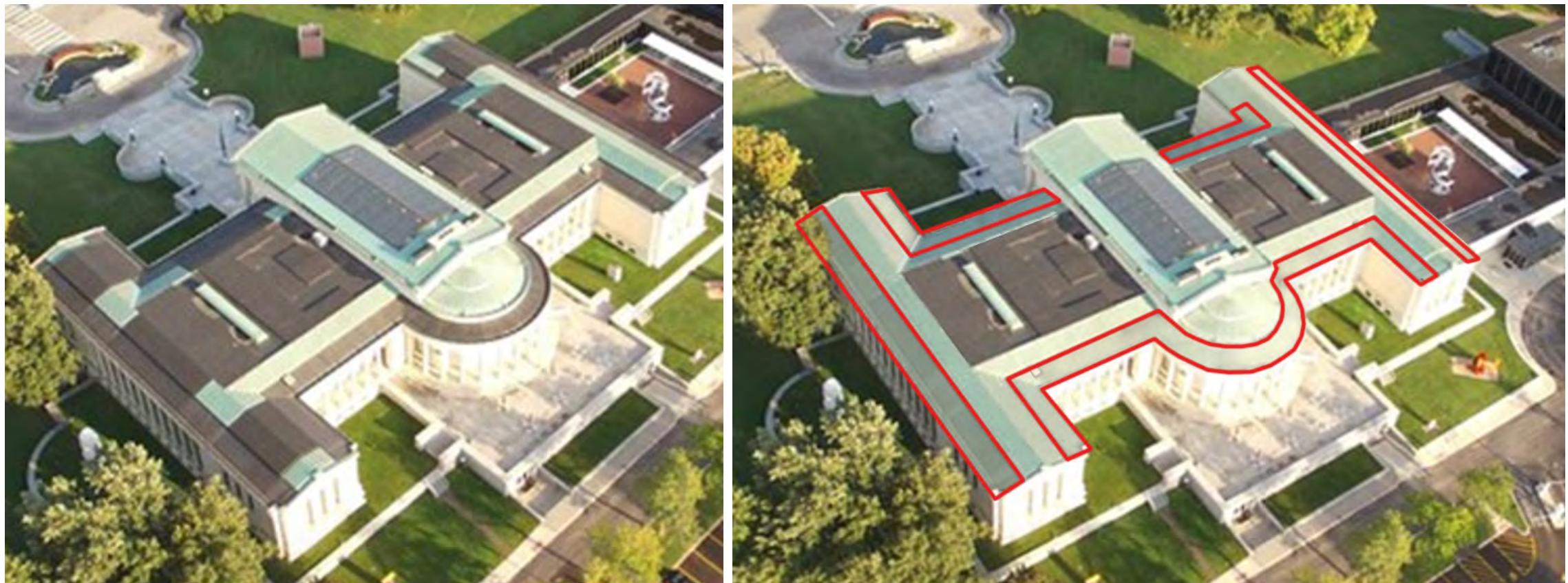
1905 BUILDING**EPDM Roofing**

Existing Condition: EPDM membrane which was installed in the 1990's is past its expected service life with leaks and failures occurring regularly. The membrane is no longer under warranty and the Museum would like to replace the roof membrane to obtain a long term warranty.



1905 BUILDING**EPDM Roofing**

Proposed Scope: Remove and replace existing EPDM rubber membrane roofing with a liquid-applied reinforced roof membrane and SBS base layer that is more appropriate for a building that houses priceless works of art. Color of the membrane to match the patina of the original copper roof at visible areas, which the EPDM roofing replaced. Photo on left shows existing roof patchwork of historic copper and EPDM roofing while photo on right shows photomontage of proposed design intent, which recalls the original appearance of the roof.

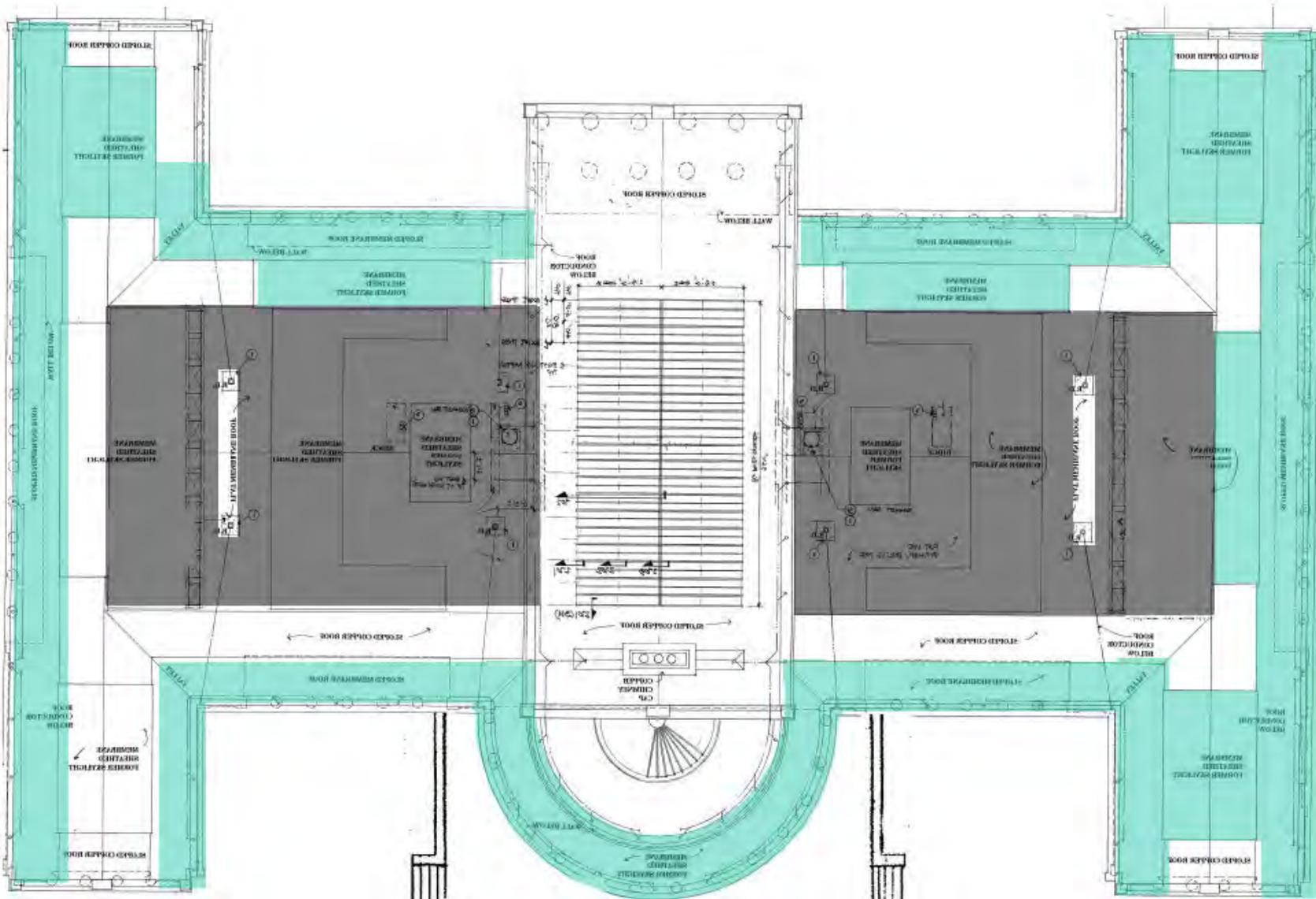


1905 BUILDING

EPDM Roofing

Areas of EPDM Roofing to be Replaced with Liquid Reinforced Membrane.

See pages 3-5 for roofing membrane cut sheets.



LEGEND:



SLOPED ROOFS



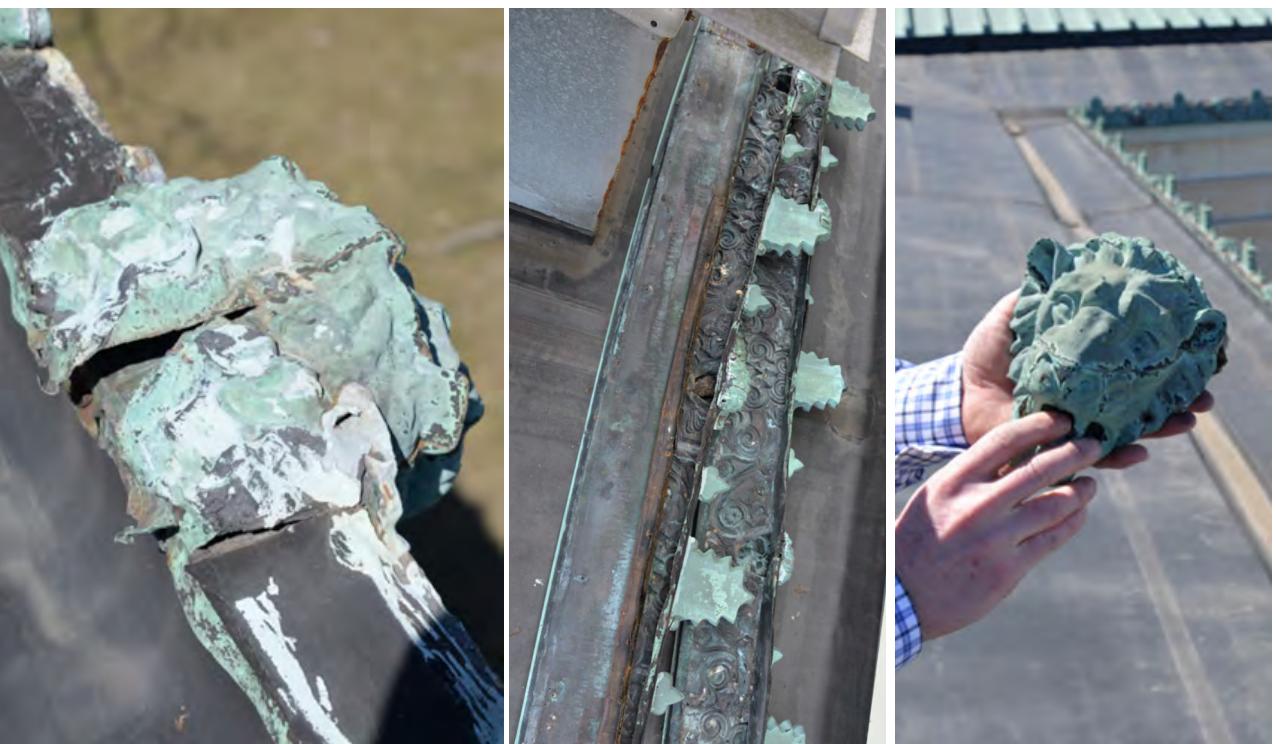
FLAT ROOFS

1905 BUILDING**Ornamental Crest**

Existing Condition: Crest is in a state of advanced deterioration.

Proposed Scope: Further survey of the crest to be performed prior to removals.

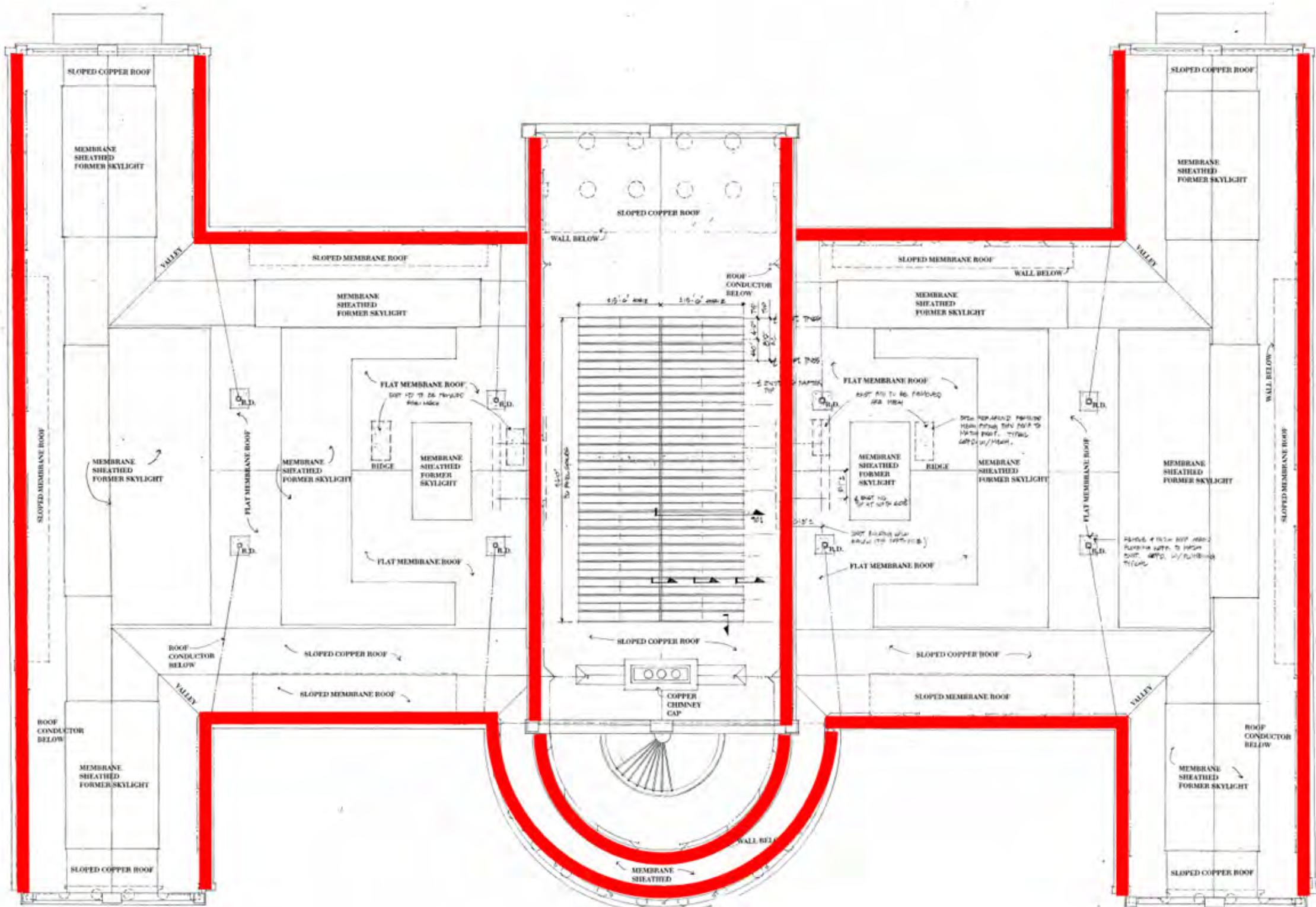
Temporarily remove and salvage the historic ornamental crest to allow replacement of the EPDM roofing. The crest is to be removed delicately and salvaged for reinstallation. The crest will require significant repairs and reinforcement, with new matching stampings being provided at localized areas as required. All new stampings to be 16oz copper mill finish; patina will return after natural oxidation over approximately 15 years, rather than being artificially patinated.



1905 BUILDING

Ornamental Crest

Areas of Repairs

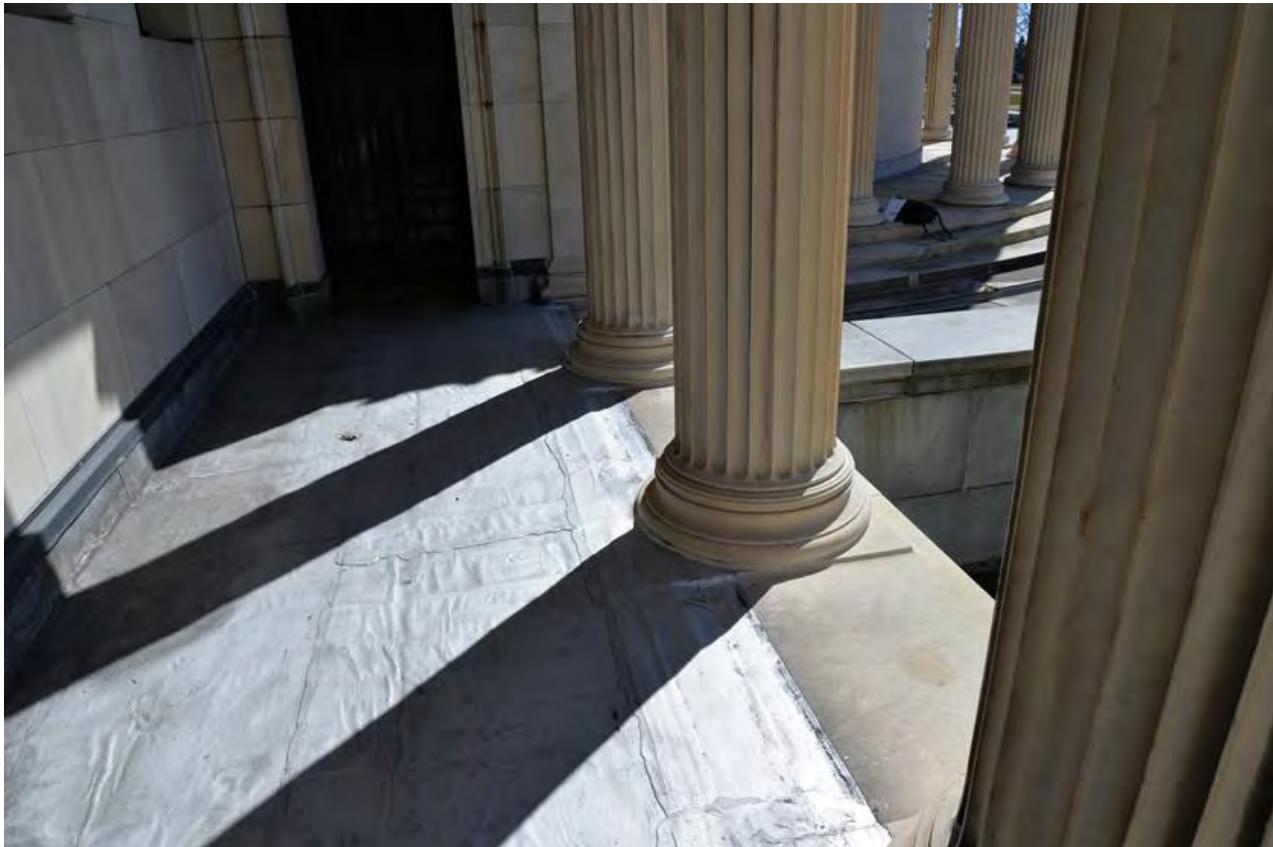


1905 BUILDING**Loggia**

Existing Condition: walkway membrane is compromised and appears to be an ad-hoc attempt to stop water infiltration without proper detailing.

Proposed Scope: remove all non-historic membranes and replace with a liquid reinforced membrane with SBS base layer. Color to match existing marble paving at the hemicycle loggia. The original floor surface was a cast iron vault-light with prism glass infills.

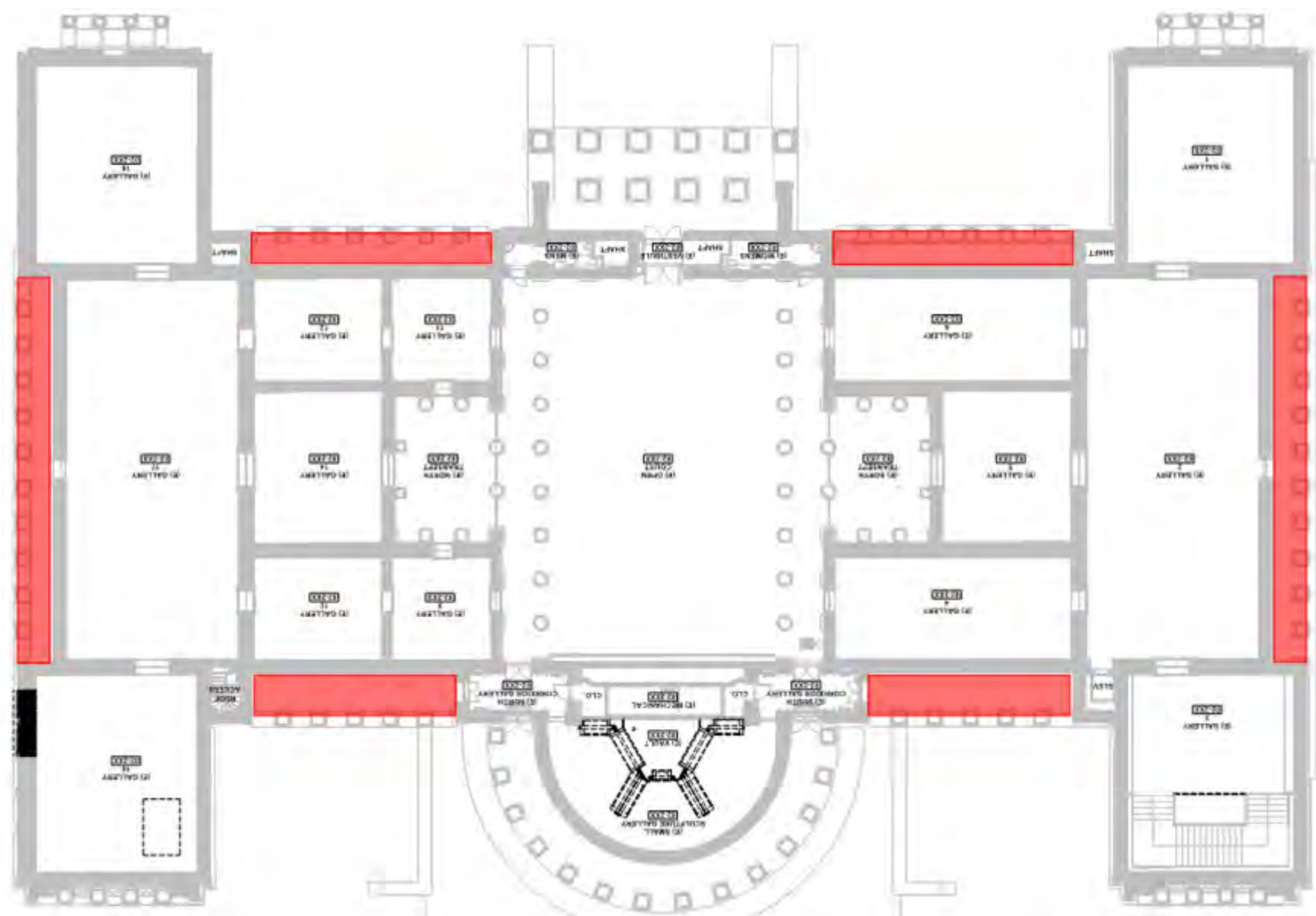
See pages 3-5 for walkway membrane cut sheets.



1905 BUILDING

Loggia

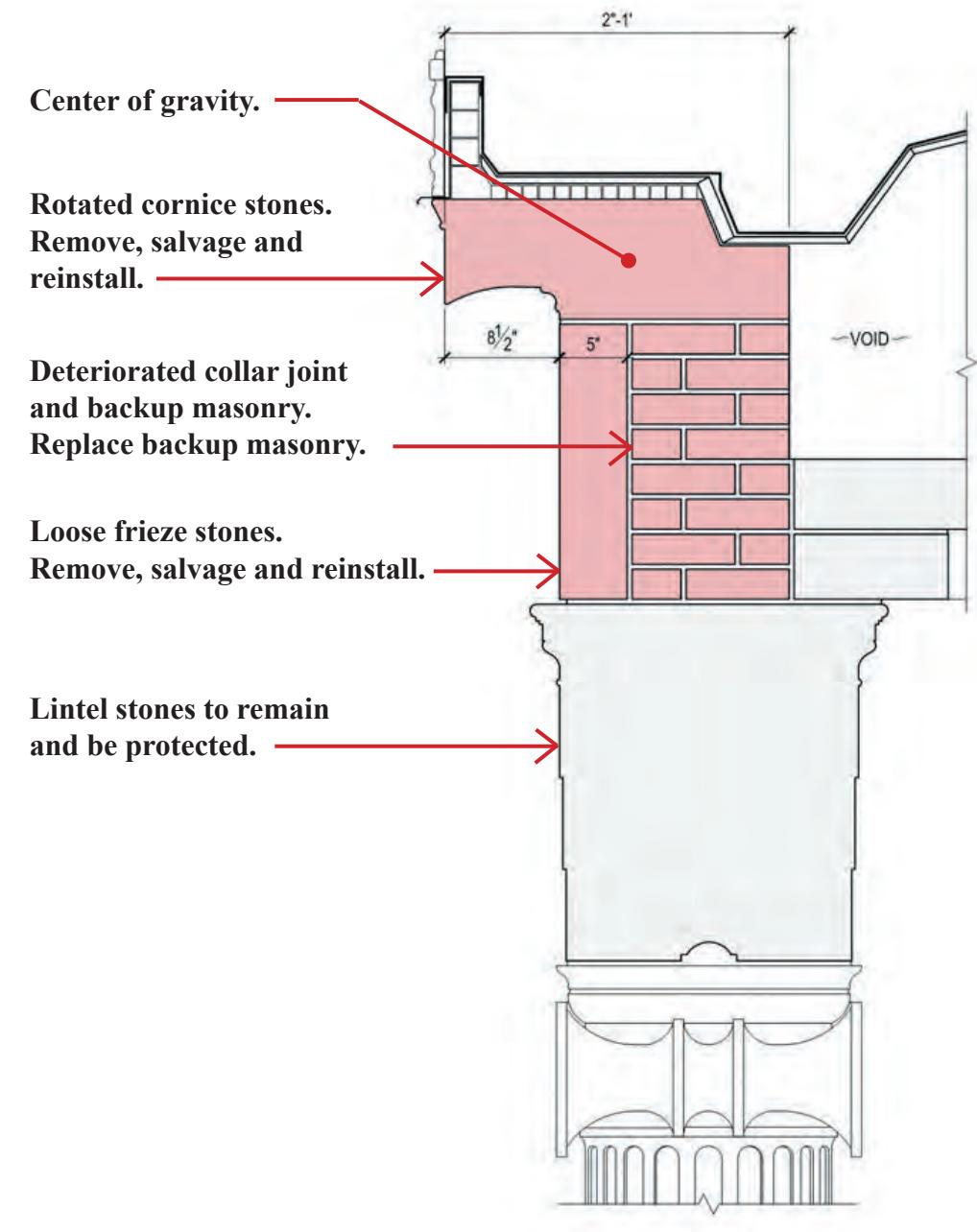
Areas of Loggia Roofing to be Replaced



1905 BUILDING**Stone Displacement Hemicycle Cornice**

Existing Condition: Stones at the cornice were observed rotated outward away from the building. Rotation was found to be caused by water infiltration at the roof above which lead to freeze-thaw action to the underlying mortar. No lateral restraints, in tandem with the poor center of gravity of the cornice stones, lead to the rotation of the units (the frieze stones below were also found to be loose).

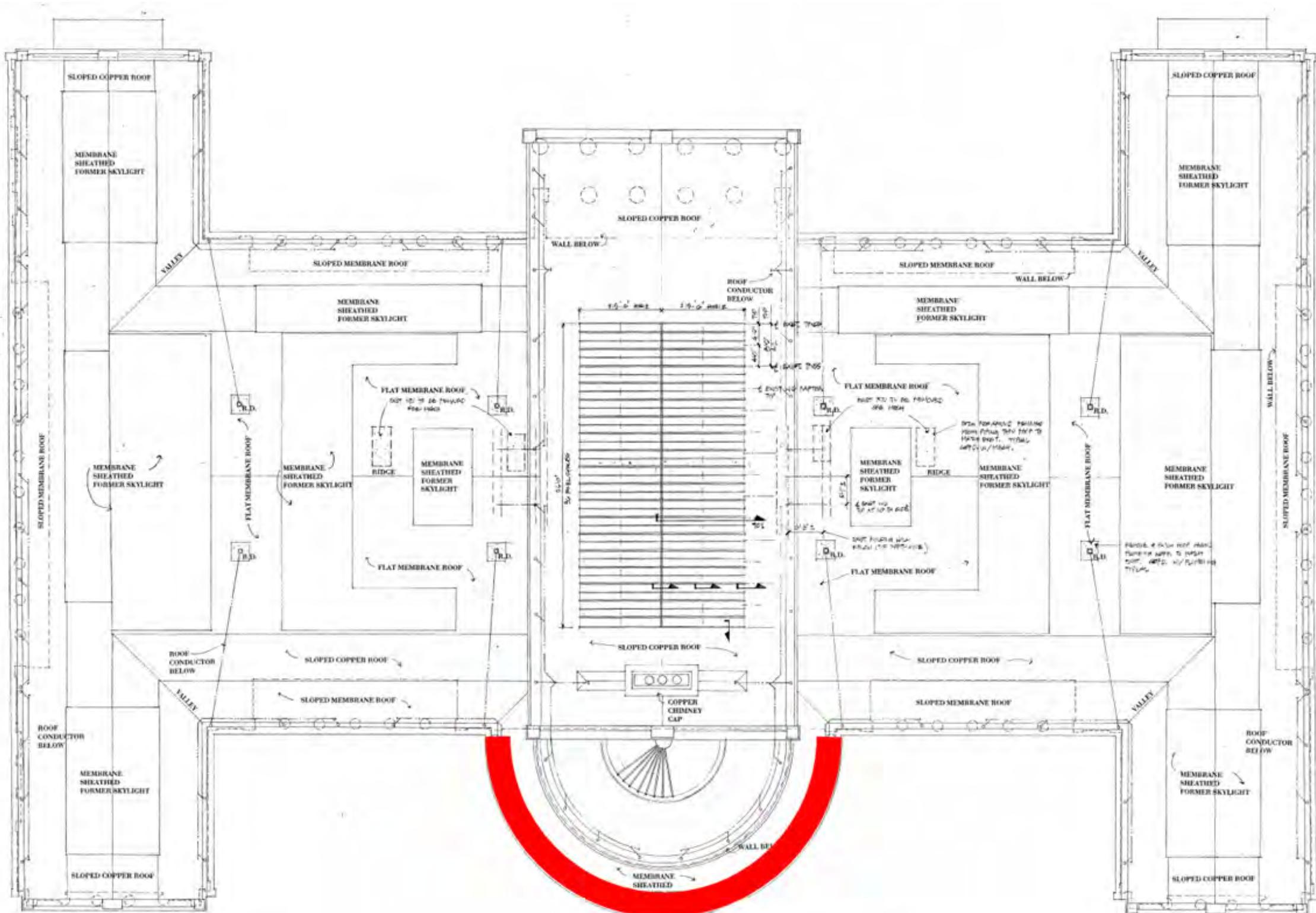
Proposed Changes: Address water infiltration issues by replacing the roofing. Remove, tag and salvage historic stones. Repair underlying brick masonry and reinstall historic stones with mortar to match existing. Match existing stone in color, texture, strength and composition. Add stainless-steel lateral anchors to cornice and frieze stones.



1905 BUILDING

Stone Displacement Hemicycle Cornice

Rebuild Area

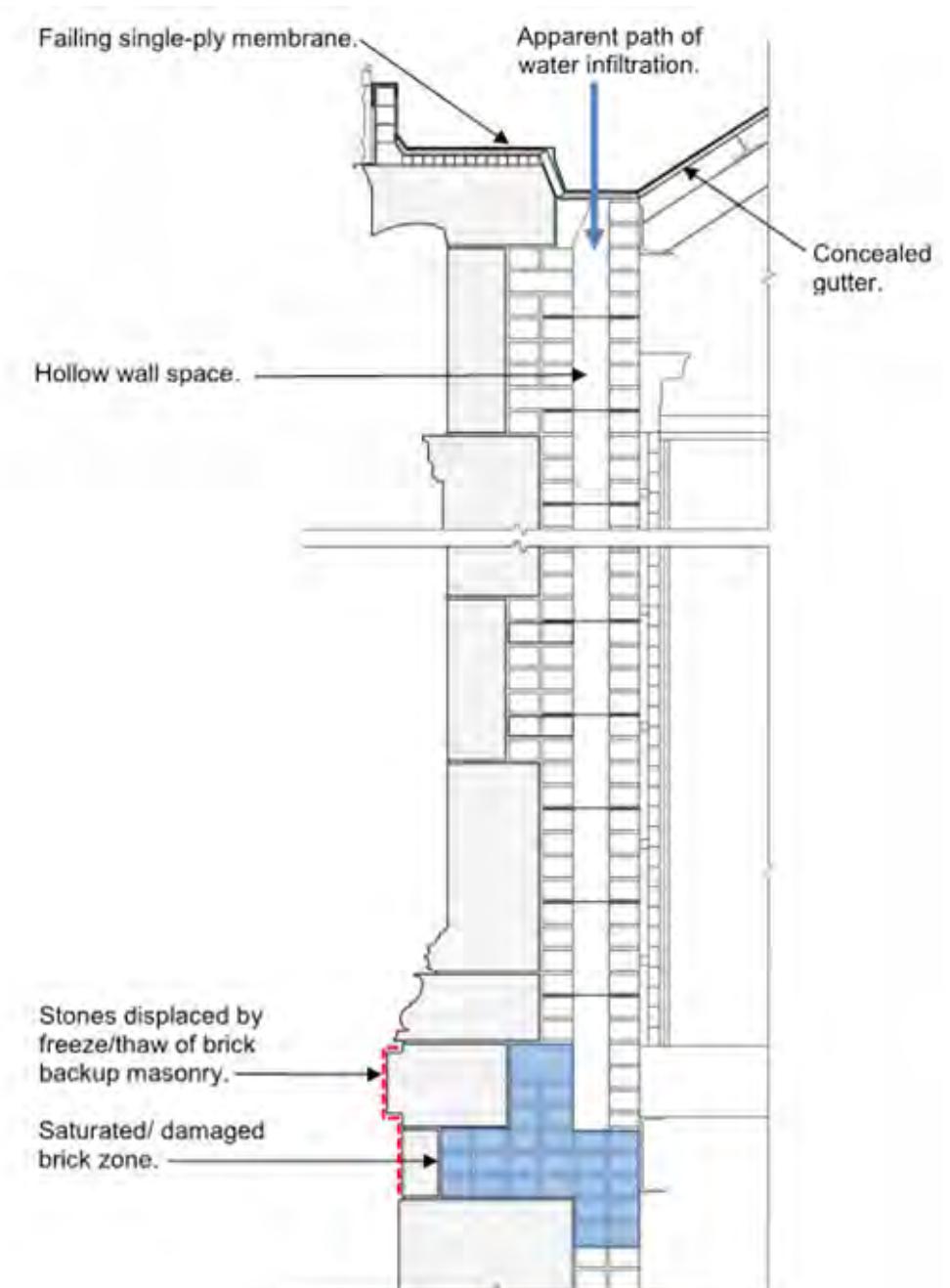


1905 BUILDING**Stone Displacement at 1st Floor Belt Course**

Existing Condition: Existing stones at the first floor belt course were observed with significant displacement. Displacement was found to be caused by freeze-thaw jacking of the backup brick masonry. The existing white Vermont marble on the façade was tested and found to have excellent freeze-thaw resistance, while the backup bricks were found to have a very high rate of permeability which contributed to their disintegration.

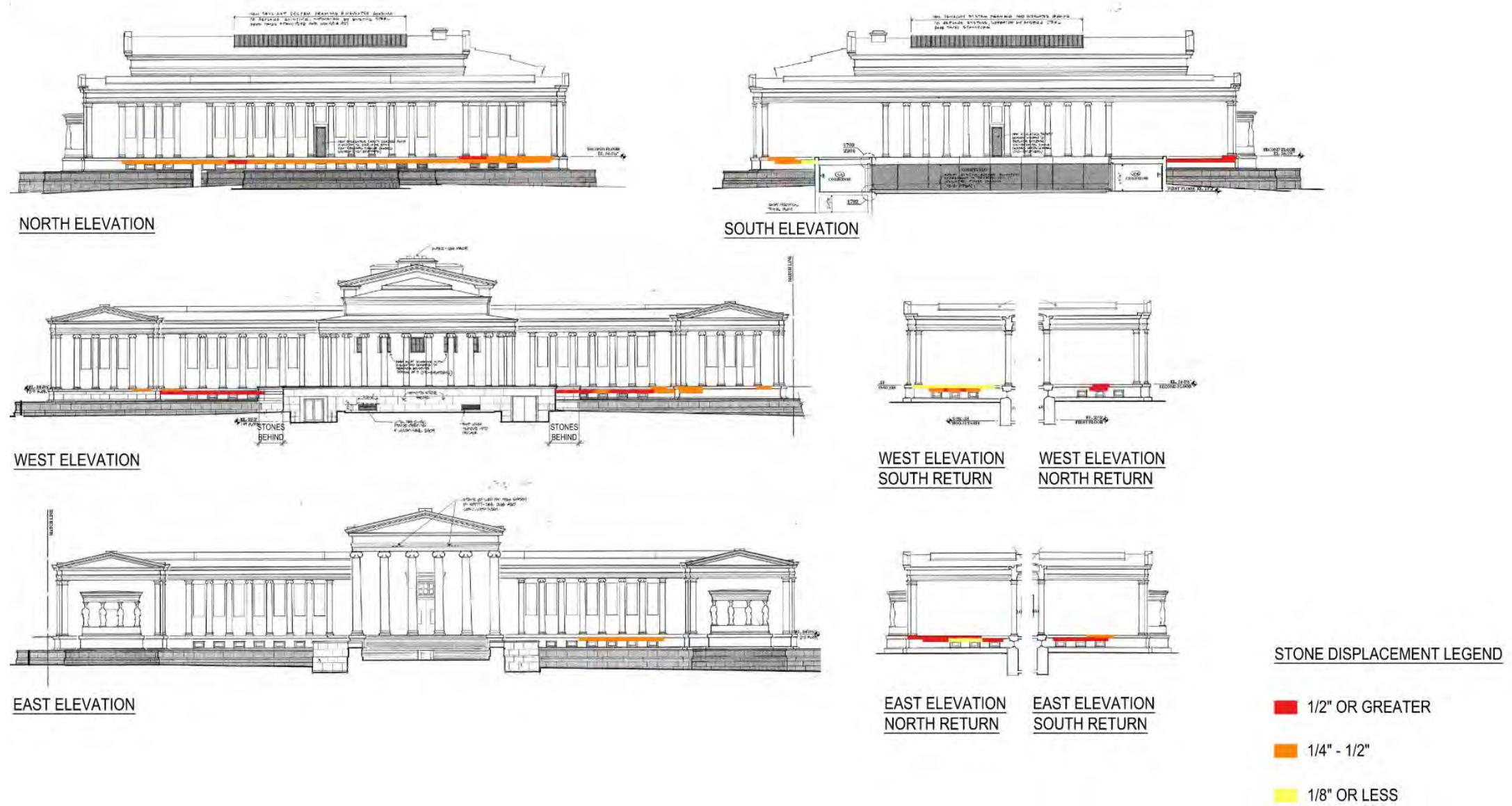
Proposed Changes: Address water infiltration issues by replacing the roofing. Remove, tag and salvage historic stones. Replace underlying brick at stone areas that exhibit over $\frac{1}{2}$ " of displacement with severe weathering brick and reinstall historic stones with mortar to match existing. Mortar type will be specified based on the analysis of existing mortar. It is assumed that type "O" mortar will be used, and installed compacted in $\frac{1}{4}$ " lifts. Stone will be replaced with existing salvaged stone if possible, or replaced with marble to match existing.

Work will be phased so that alternate stone sections are replaced to avoid destabilizing the wall. Shoring will be required.



1905 BUILDING**Stone Displacement at 1st Floor Belt Course**

Areas of displaced stones.



1905 BUILDING**Mortar/Sealant**

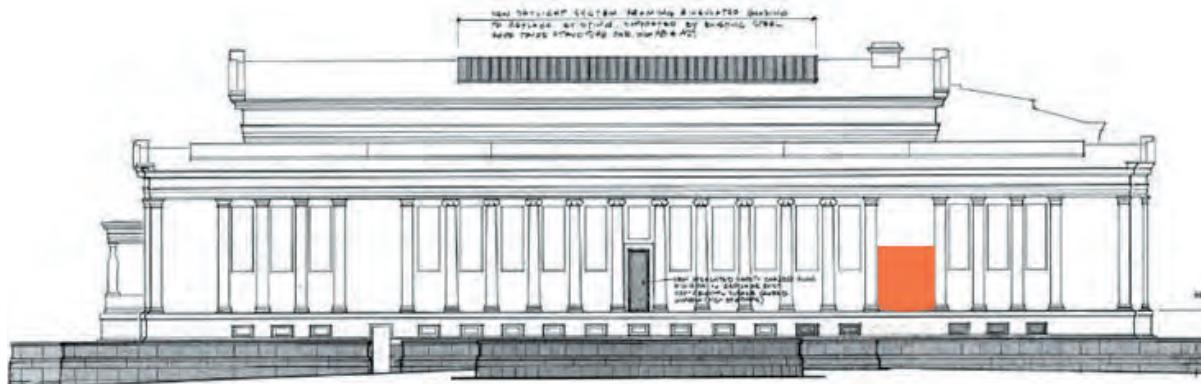
Existing Condition: Sealant was installed in joints that were originally intended to be mortar joints. The sealant is trapping water behind the wall causing the stones to spall from freeze-thaw action.

Proposed Scope: Remove non-historic sealant to allow water that has accessed the wall to drain out. Remove existing sealant and replace with mortar that matches the original mortar on the building in composition and color. This will restore the function of the mortar joints as an inherent drainage plane for masonry walls. Mortar type will be specified based on the analysis of existing mortar. It is assumed that type "O" mortar will be used, and installed compacted in 1/4" lifts.

Any spalls to be repaired with stone dutchman repair. Use stone salvaged from the new opening in the façade where the north bridge will connect.

At this stage, we assume Cathedral Stone Jahn M120, or Edison Coatings Custom System 45 MR will be acceptable for patching.

See cut sheets on page 6.

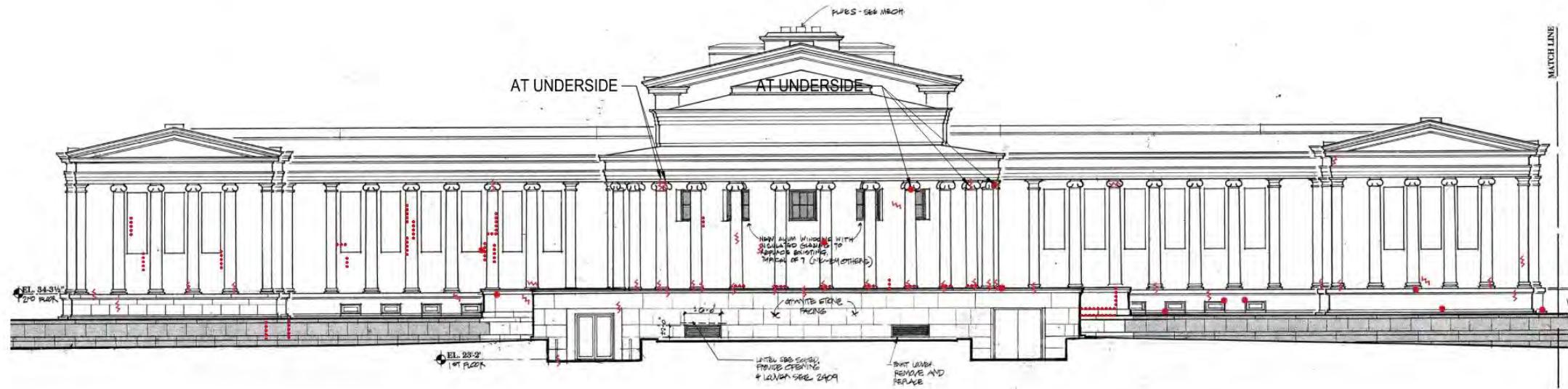


1201 NORTH ELEVATION - 1901 BUILDING

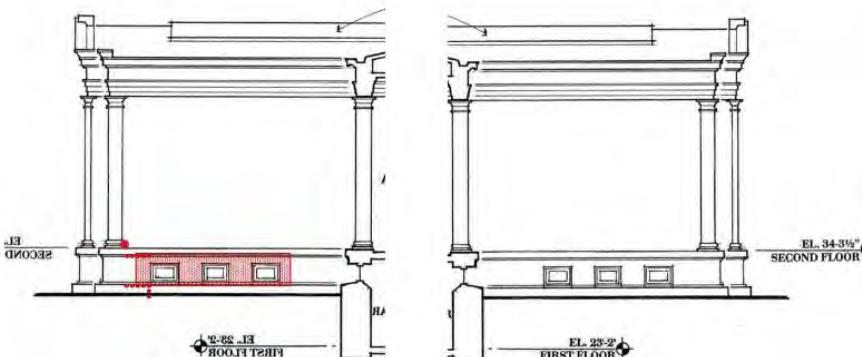
Approximate location of new door opening.

1905 BUILDING

Facade Repairs



WEST ELEVATION

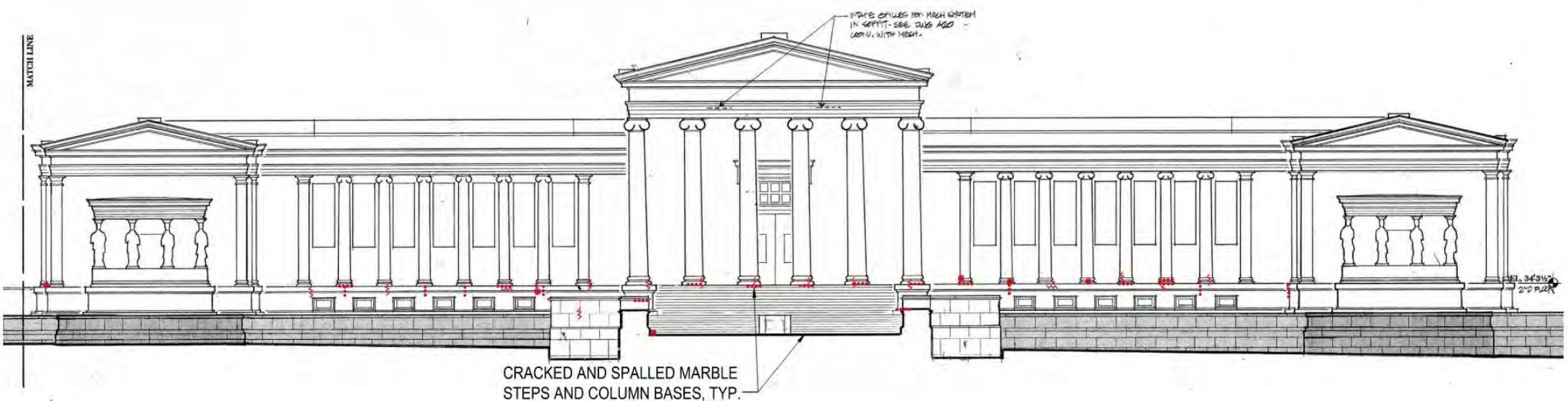


LEGEND

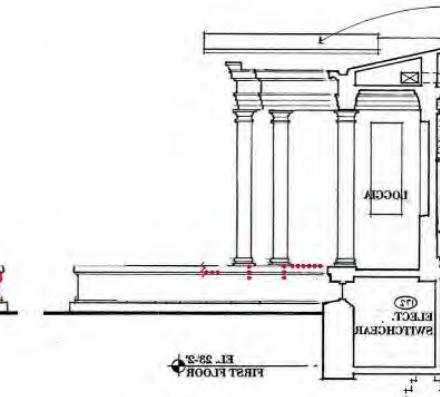
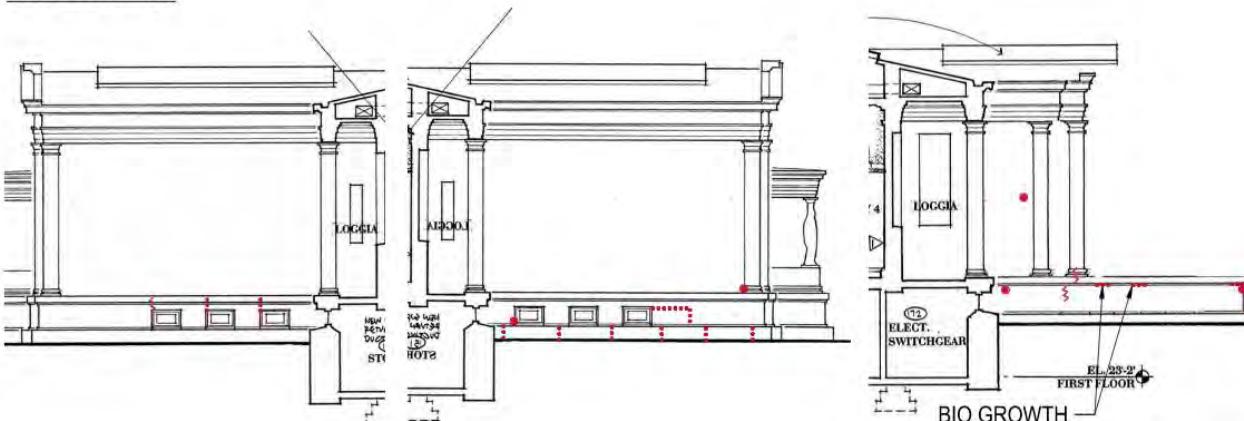
- ⚡ CRACKED STONE
- OPEN MORTAR JOINTS
- SPALLED STONE

1905 BUILDING

Facade Repairs



EAST ELEVATION

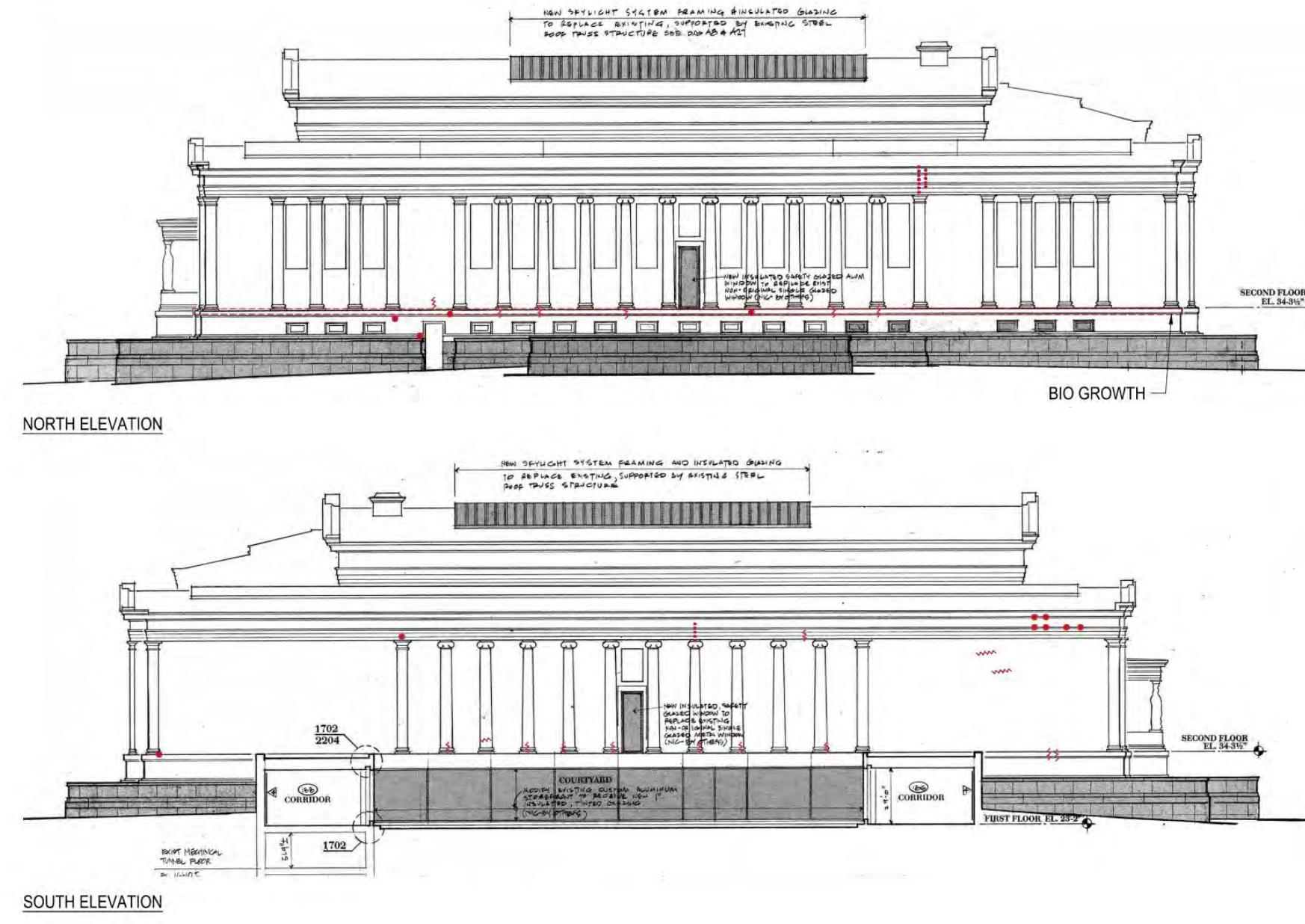


LEGEND

- ⚡ CRACKED STONE
- OPEN MORTAR JOINTS
- SPALLED STONE

1905 BUILDING

Facade Repairs

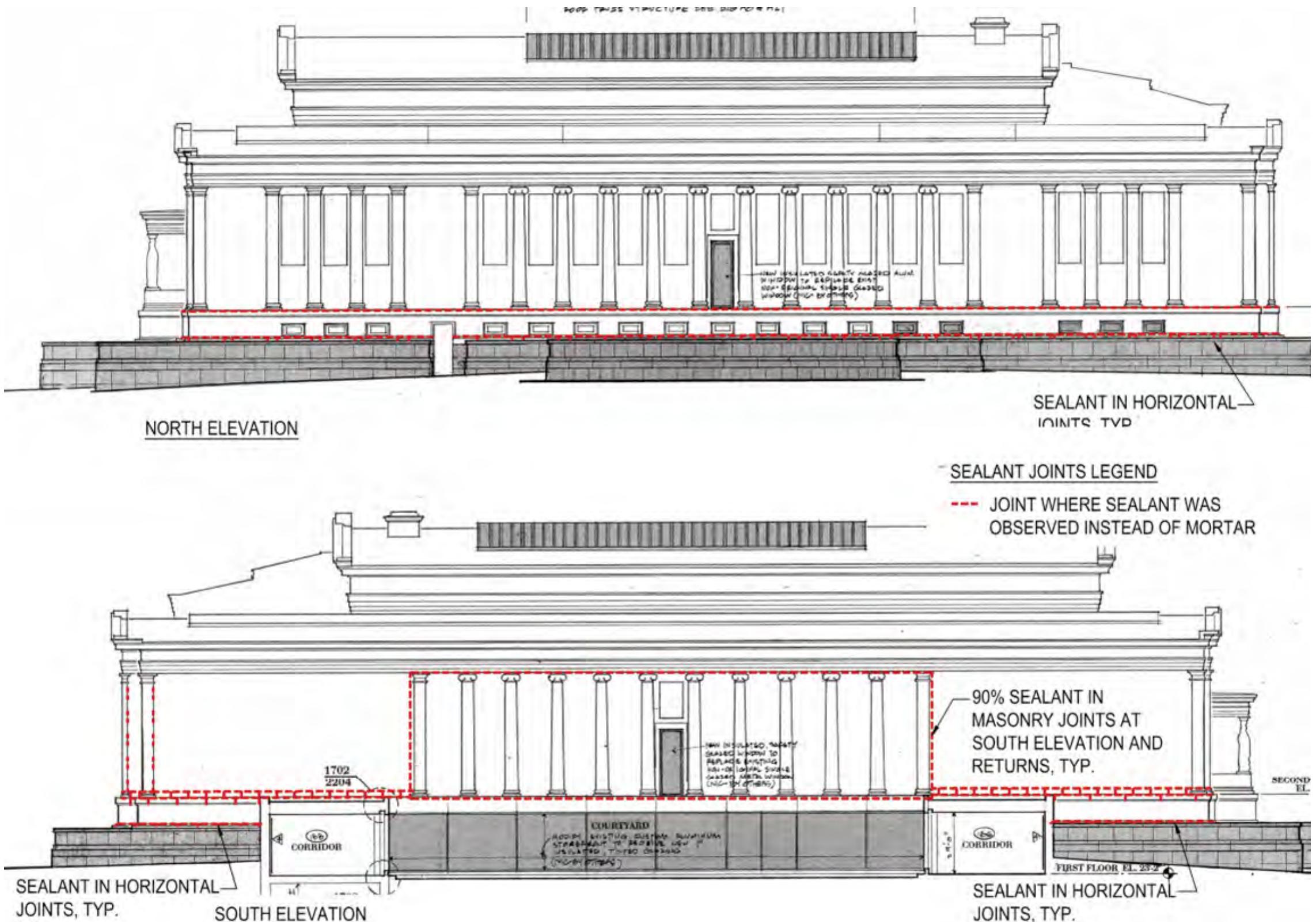


1905 BUILDING

Mortar/ Sealant

Areas where sealant is to be removed and joints repointed.

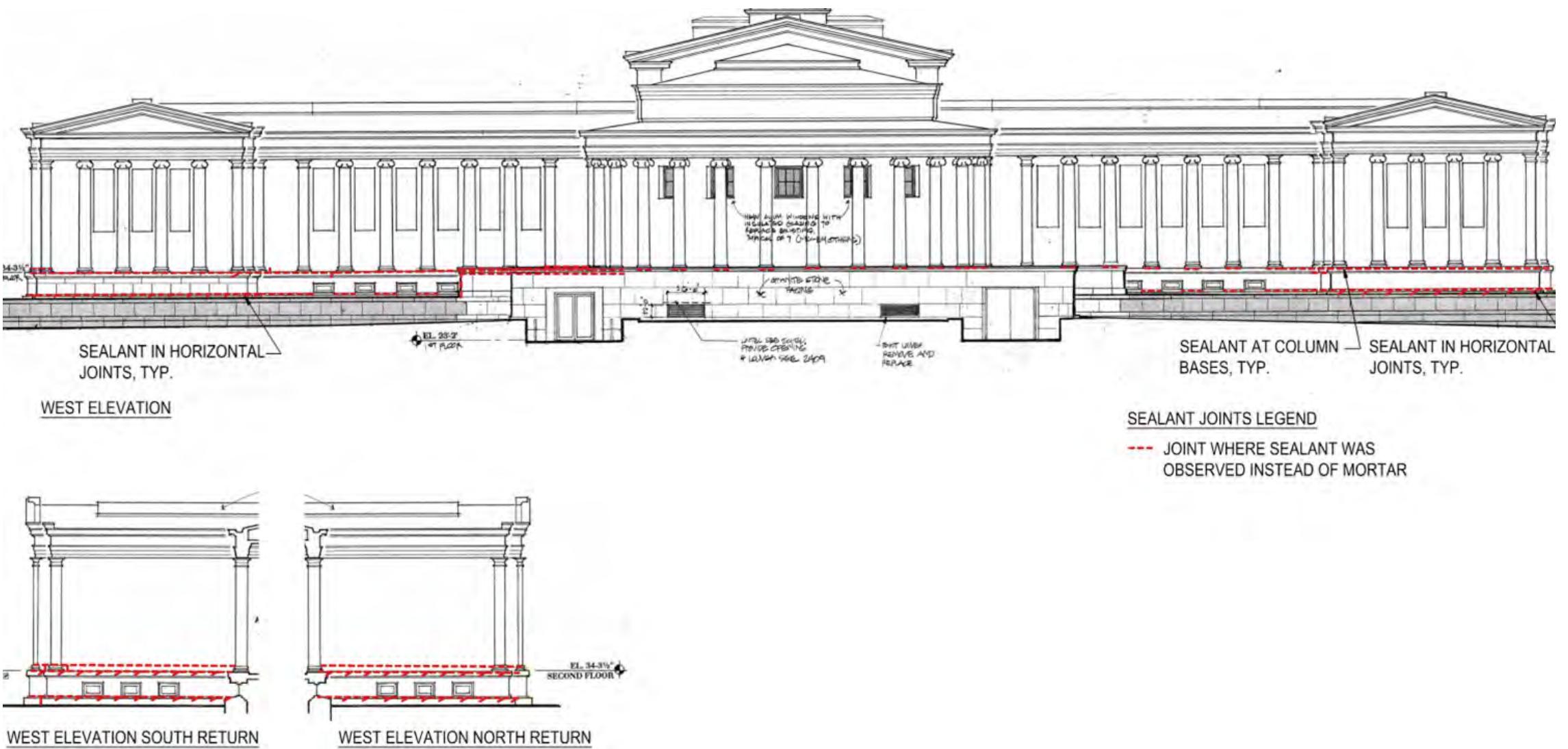
Mortar type will be specified based on the analysis of existing mortar. It is assumed that type "O" mortar will be used, and installed compacted in 1/4" lifts.



1905 BUILDING**Mortar/ Sealant**

Areas where sealant is to be removed and joints repointed.

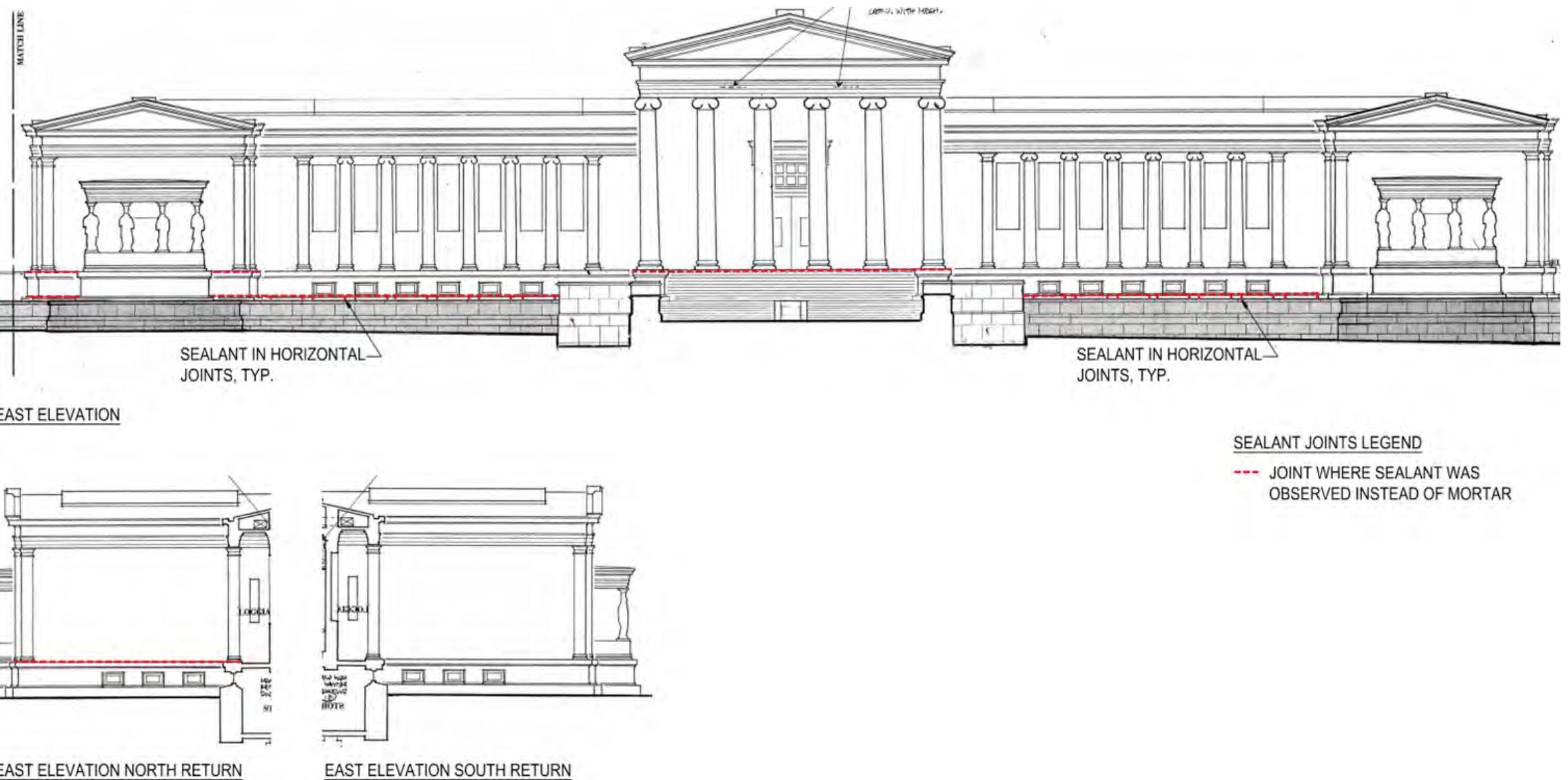
Mortar type will be specified based on the analysis of existing mortar. It is assumed that type "O" mortar will be used, and installed compacted in 1/4" lifts.



1905 BUILDING**Mortar/ Sealant**

Areas where sealant is to be removed and joints repointed.

Mortar type will be specified based on the analysis of existing mortar. It is assumed that type "O" mortar will be used, and installed compacted in 1/4" lifts.



1905 BUILDING**West Stone Patio**

Existing Condition: The existing EPDM membrane below the stone pavers of the west portion is compromised causing significant water infiltration into the spaces below, in one location a structural member exhibits excessive corrosion which required shoring.

Proposed Scope: The existing stone pavers will be removed, tagged and salvaged for reinstallation. The existing EPDM membrane will be removed and replaced with liquid-applied reinforced membrane. Once the membrane is replaced then the stone pavers will be reinstalled in their original location.

See pages 3-5 for new membrane cut sheets.

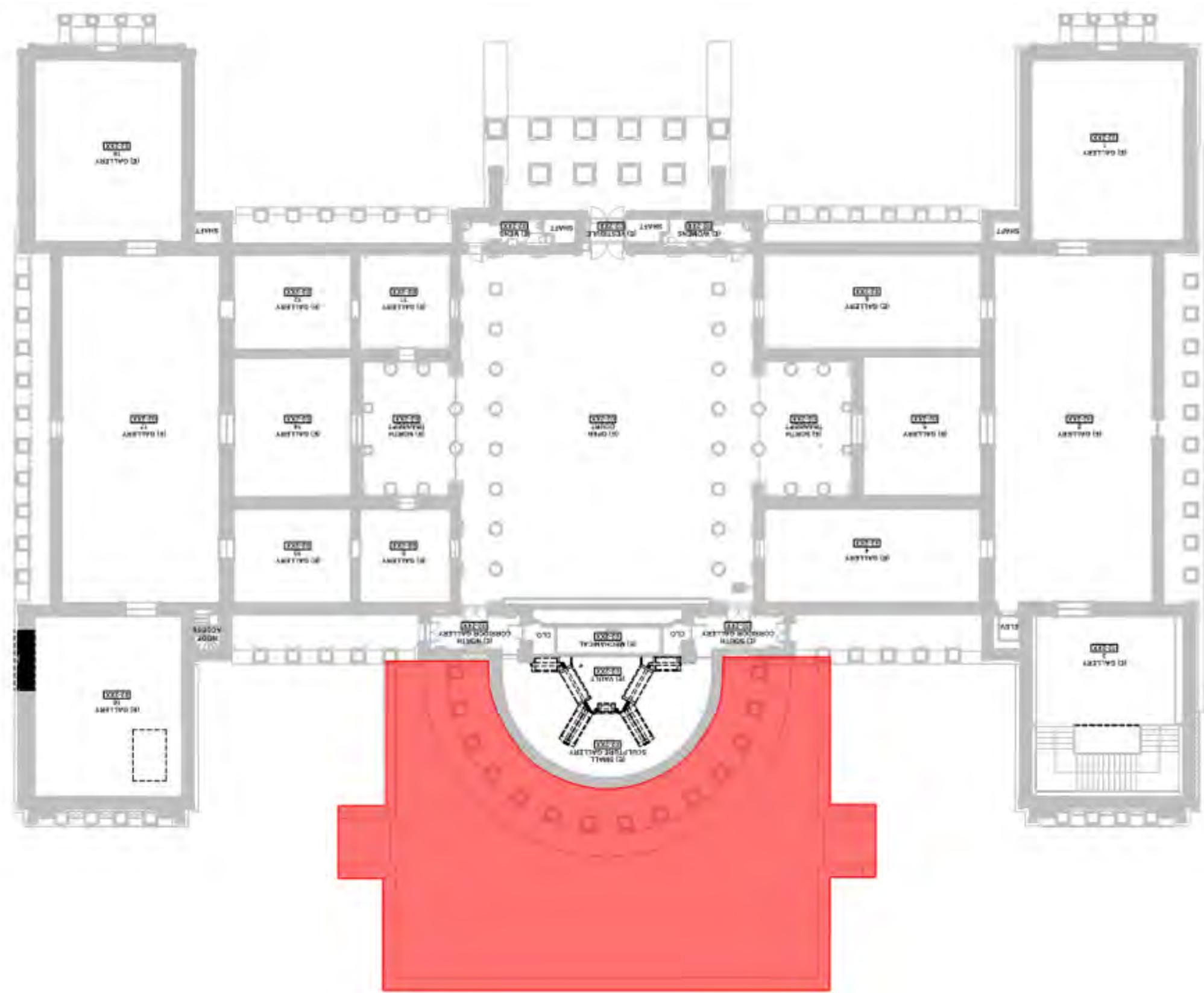


1905 BUILDING

West Stone Patio

Areas of West Patio Roofing to be replaced with liquid-applied reinforced membrane.

See pages 3-5 for new membrane cut sheets.



1962 BUILDING**Roof Replacement at Auditorium Roof**

Existing Condition: Membrane is past its expected service life and no longer under warranty.

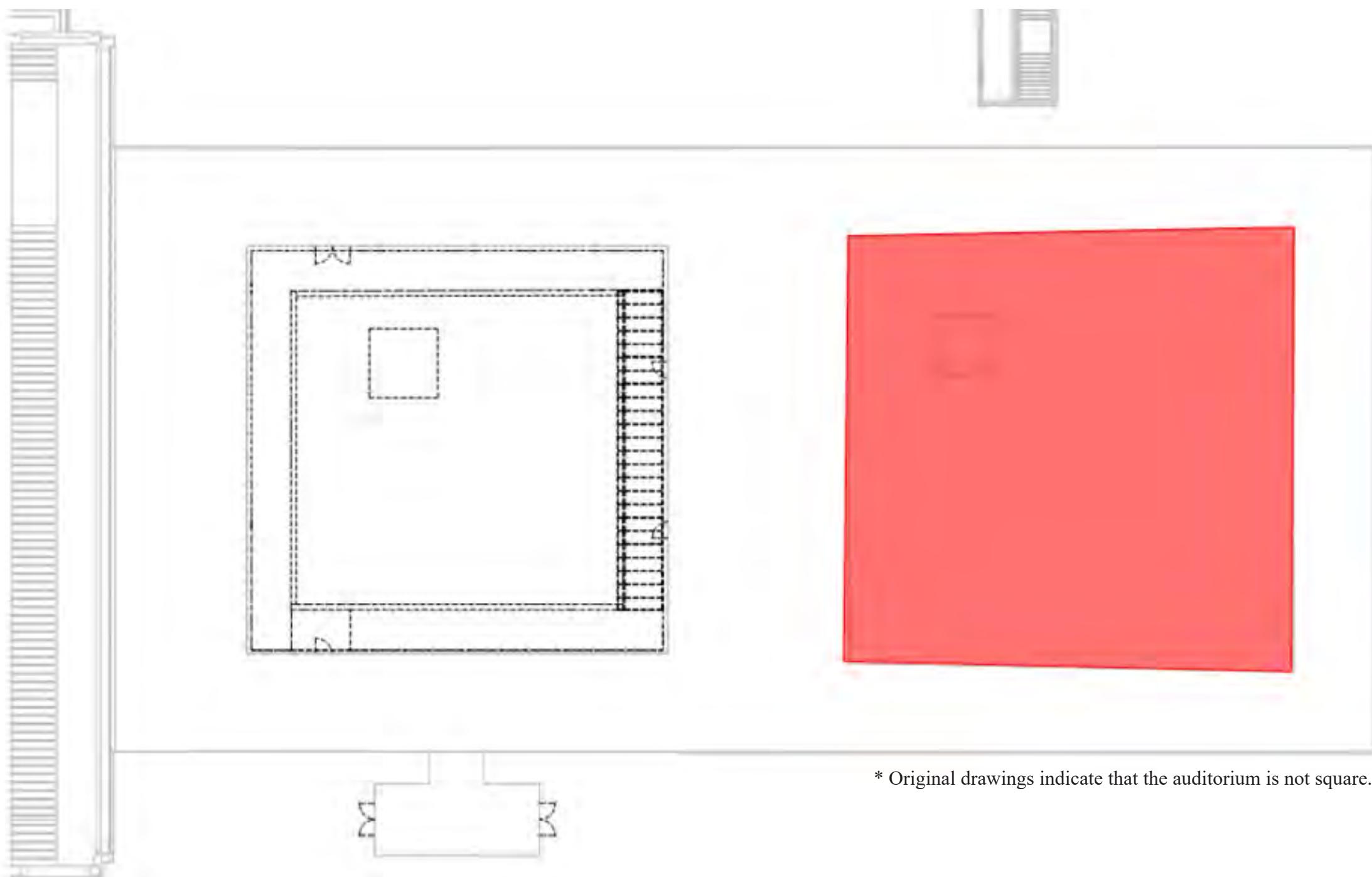
Proposed Scope: Replace the existing EDPM rubber membrane with a more robust liquid-applied reinforced membrane with SBS base layer. The color of the roof would be black to match the existing roof color.

See pages 3-5 for new membrane cut sheets.



1962 BUILDING**Roof Replacement at Auditorium Roof**

Area of Auditorium Roof to be Replaced
with Liquid-Applied Reinforced Mem-
brane



* Original drawings indicate that the auditorium is not square.

1962 BUILDING**Façade Work**

Existing Condition: Cracked, chipped and spalled marble units were observed in localized areas.

Proposed Scope: The design intent is to preserve as much of the historic material as possible. Proposed repairs would include pinning units in place and filling pin openings with stone plugs to match host stone. Cracks to be repaired/ finished with patching compound to match host stone. At this stage, we assume Cathedral Stone Jahn M120, or Edison Coatings Custom System 45 MR will be acceptable for patching.

Spalls to be repaired with stone dutchman using stone salvaged from the new door opening in the east façade, or with matching marble material (including material for stone plugs). Example is provided to show anticipated blending.

See cut sheets on page 6.



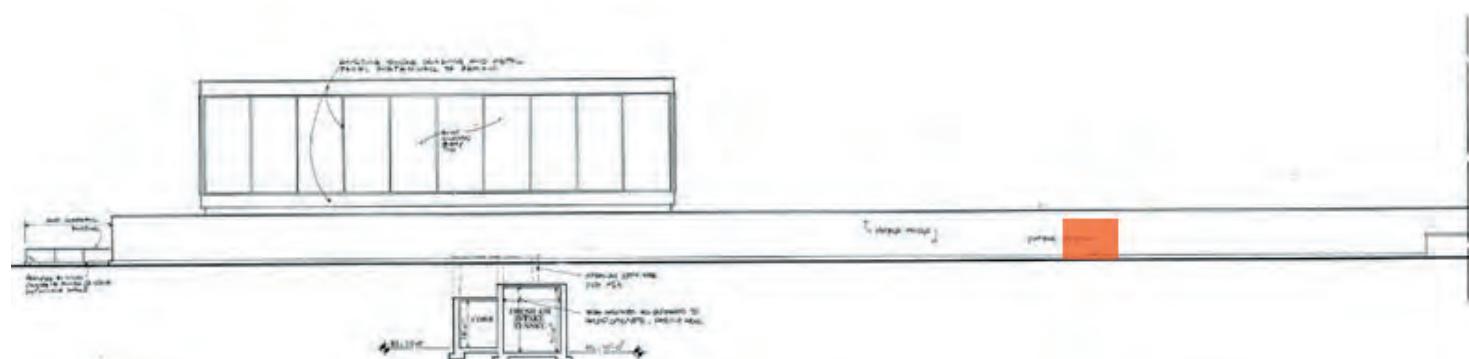
West facade of the 1962 building.



Crack in marble.



Example of an NYC LPC approved matching limestone dutchman performed at the Guggenheim Museum in 2014. We intend to achieve a similar match for marble.

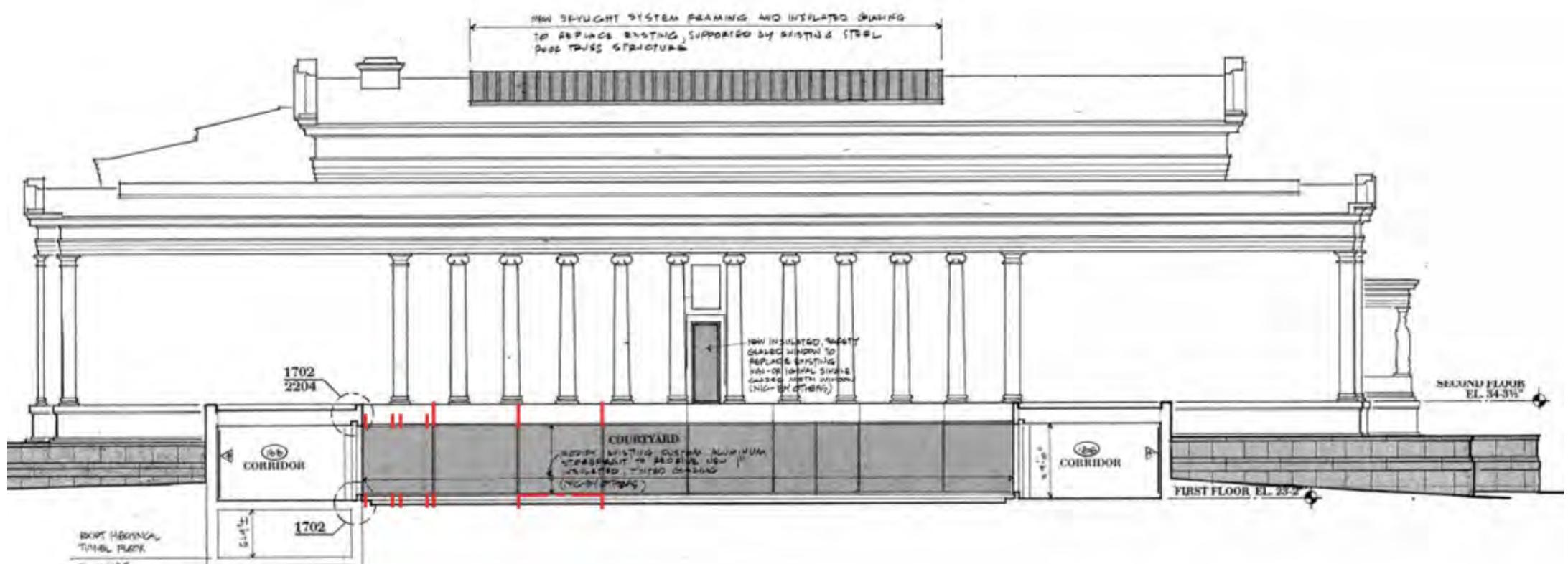


Approximate location of new door opening.

1962 BUILDING

Façade Work

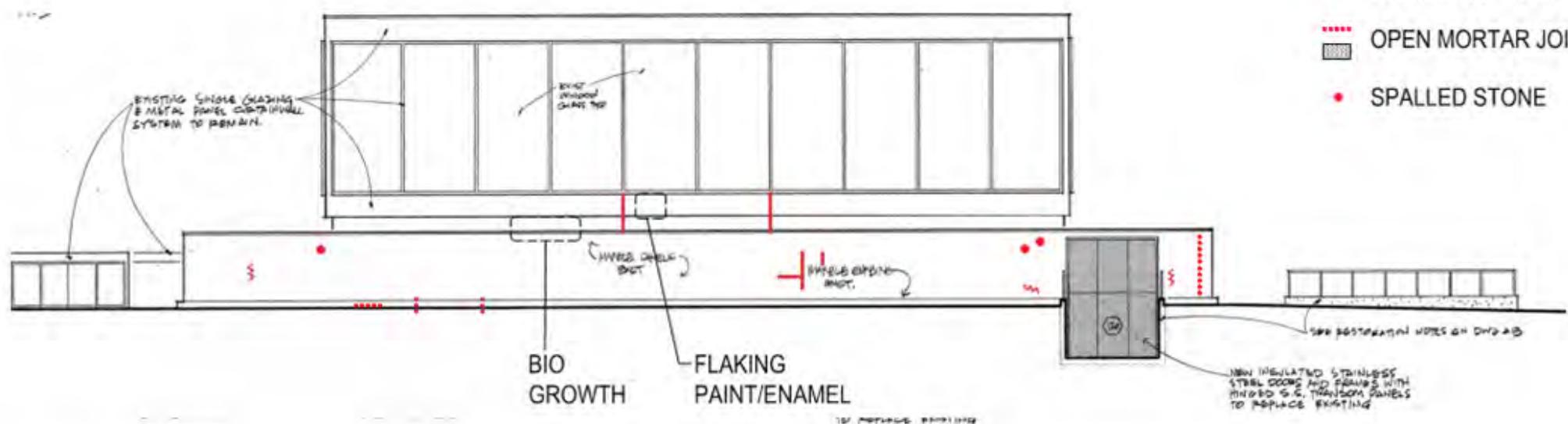
Areas to be repaired, using the methods described on page 33.



SOUTH COURTYARD ELEVATION

LEGEND

- OPEN SEALANT JOINT
- \\\\ CRACKED STONE
- OPEN MORTAR JOINTS
- SPALLED STONE

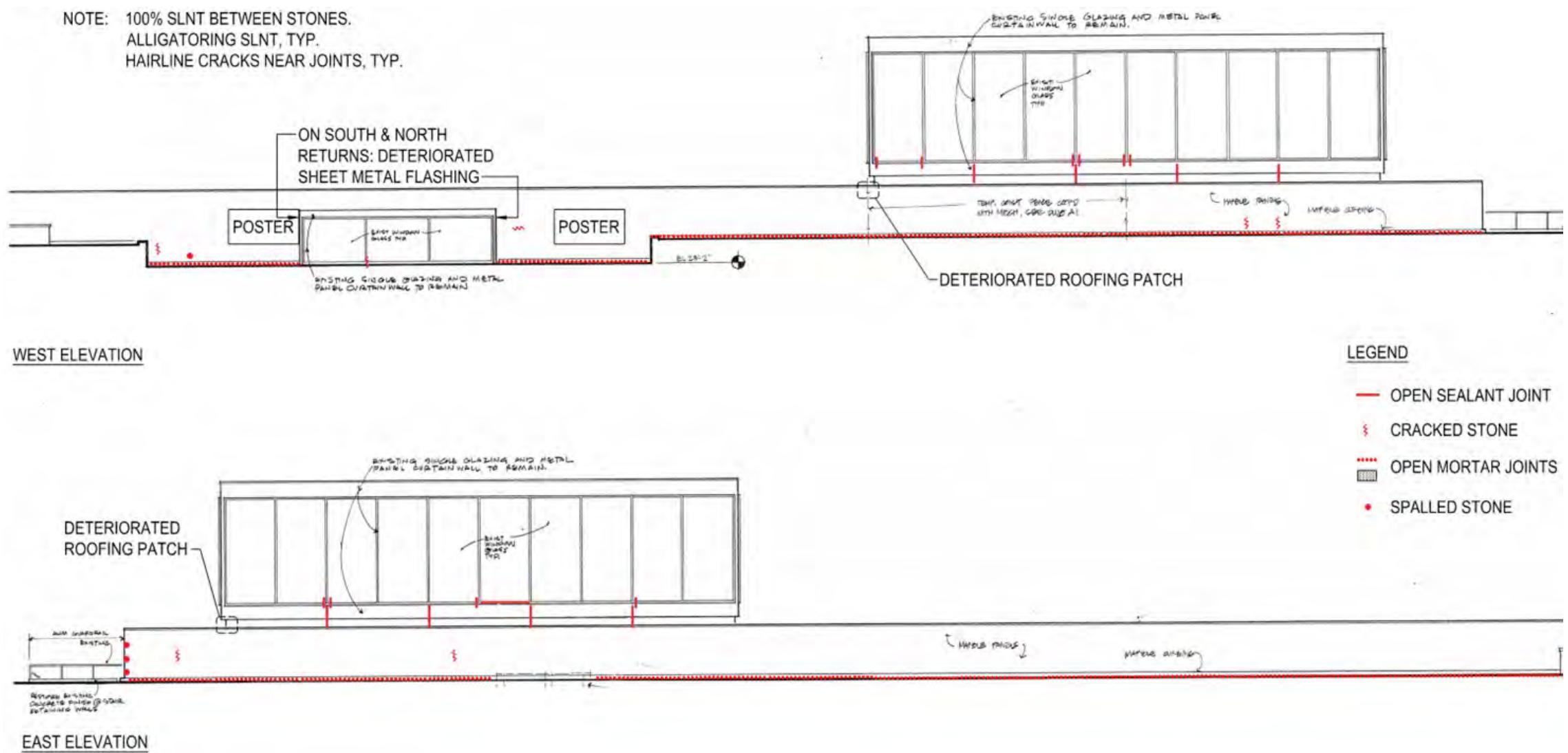


SOUTH ELEVATION

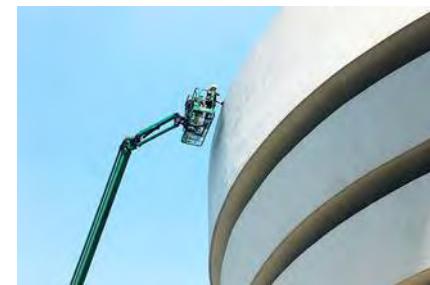
1962 BUILDING**Façade Work**

Areas to be repaired, using the methods described on page 33.

NOTE: 100% SLNT BETWEEN STONES.
ALLIGATORING SLNT, TYP.
HAIRLINE CRACKS NEAR JOINTS, TYP.



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